

Material Safety Data Sheet



1. Product and company identification

Product name	Castrol Transmax Import Multi-Vehicle
MSDS #	467634
Code	467634-US12
Product use	Transmission fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Liquid.
Color	Red.
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.
See toxicological information (Section 11)	

3. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	Varies	45 - 50
Base oil - highly refined	Varies	40 - 45
Polyalkyl methacrylate	Proprietary	10 - 15
Methacrylate copolymer	Proprietary	1 - 5

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4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point	Open cup: 180°C (356°F) [Cleveland.]
Fire/explosion hazards	In a fire or if heated, a pressure increase will occur and the container may burst.
Extinguishing media	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous combustion products	Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)
Protective clothing (fire)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods for cleaning up	
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
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Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Occupational exposure limits

Base oil - highly refined

ACGIH (United States).

TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist

OSHA (United States).

TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist

Base oil - highly refined

ACGIH (United States).

TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist

OSHA (United States).

TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state Liquid.

Color Red.

Flash point Open cup: 180°C (356°F) [Cleveland.]

Density 860.2 kg/m³ (0.86 g/cm³) at 15°C

Viscosity Kinematic: 35.57 mm²/s (35.57 cSt) at 40°C
Kinematic: 7.898 mm²/s (7.898 cSt) at 100°C

Solubility insoluble in water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information	Not classified as an eye irritant. Based on data available for this or related materials.
Potential chronic health effects	
Carcinogenicity	No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability	Not expected to be rapidly degradable.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

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15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b)

All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Castrol Transmax Import Multi-Vehicle (Port Allen) Parent: Immediate (acute) health hazard

SARA 313

Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):

CERCLA: Hazardous substances.: acrylic acid: 5000 lbs. (2270 kg); Ethylene oxide: 10 lbs. (4.54 kg); Ethyl acrylate: 1000 lbs. (454 kg);

State regulations

Massachusetts Substances

None of the components are listed.

New Jersey Hazardous Substances

None of the components are listed.

Pennsylvania RTK Hazardous Substances

None of the components are listed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer. Ethyl acrylate

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Ethylene oxide

Other regulations

Canada inventory

All components are listed or exempted.

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

Australia inventory (AICS)

At least one component is not listed.

China inventory (IECSC)

At least one component is not listed.

Japan inventory (ENCS)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

16. Other information

Label requirements

CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :

Health 1
Flammability 1
Physical Hazard 0
Personal protection X

National Fire Protection Association (U.S.A.)

Health 1 1 0
Fire hazard
Instability
Specific hazard

History

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Date of previous issue 02/13/2012.

Prepared by Product Stewardship

 **Indicates information that has changed from previously issued version.**

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

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Material Safety Data Sheet



1. Chemical product and company identification

Product name HINO GENUINE 15W-40 ENGINE OIL
MSDS# 0000001957
Historic MSDS#: None.
Code 0000001957
Product use Automotive engine crankcase lubricant.
 For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Supplier Castrol Heavy Duty Lubricants
 9300 Pulaski Highway
 Baltimore, Maryland 21220-2495
EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
 (866-427-6737 Toll Free - North America)
 email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight	Exposure limits
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC	64742-54-7	60 - 100	ACGIH (United States). TWA: 5 mg/m ³ 8 hour(s). Form: OIL MIST, MINERAL STEL: 10 mg/m ³ 15 minute(s). Form: OIL MIST, MINERAL OSHA (United States). PEL: 5 mg/m ³ 8 hour(s). Form: OIL MIST, MINERAL None assigned.
1-DECENE, HOMOPOLYMER, HYDROGENATED	68037-01-4	10 - 15	None assigned.
Zinc alkyl dithiophosphate	68649-42-3	1 - 5	None assigned.

3. Hazards identification

Physical state Liquid.
Color Clear. Brown.
Emergency overview WARNING!
 MAY CAUSE EYE IRRITATION.
 Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

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Routes of entry Skin contact. Eye contact. Inhalation. Ingestion.

Potential Health Effects

Eyes May cause eye irritation.

Skin Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

USED ENGINE OILS

Used engine oil may contain hazardous components which have the potential to cause skin cancer.

See Toxicological Information, section 11 of this Safety Data Sheet.

Inhalation Mist : May cause respiratory tract irritation.

Ingestion Causes gastrointestinal irritation and diarrhea.

See toxicological information (section 11)

4. First aid measures

Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the product May be combustible at high temperature.

Flash point 222 °C (Closed cup) Pensky-Martens.

Products of combustion These products are carbon oxides (CO, CO₂), sulfur oxides (SO₂, SO₃...) and oxides of phosphorus.

Unusual fire/explosion hazards This material is not explosive as defined by established regulatory criteria.

Not available.

Fire fighting media and instructions In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.

Protective clothing (fire) Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal Precautions Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

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Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling

Avoid prolonged or repeated contact with skin. Avoid breathing vapors or spray mists. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Occupational exposure limits

DISTILLATES (PETROLEUM),
HYDROTREATED HEAVY PARAFFINIC

ACGIH (United States).

TWA: 5 mg/m³ 8 hour(s). Form: OIL MIST, MINERAL
STEL: 10 mg/m³ 15 minute(s). Form: OIL MIST, MINERAL

DECENE, HOMOPOLYMER,
HYDROGENATED
Zinc alkyl dithiophosphate

OSHA (United States).

PEL: 5 mg/m³ 8 hour(s). Form: OIL MIST, MINERAL
None assigned.

None assigned.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protection

Eyes

Avoid contact with eyes. Chemical splash goggles.

Skin and Body

Avoid prolonged or repeated contact with skin. Wear protective clothing if prolonged or repeated contact is likely.

Respiratory

None required; however, use of adequate ventilation is good industrial practice. If heated and ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

Hands

Wear protective gloves if prolonged or repeated contact is likely.

Consult local authorities for acceptable exposure limits.

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9. Physical and chemical properties

Physical state	Liquid.
Odor	Mild.
Color	Clear. Brown.
Pour Point	-33 °C
Specific Gravity	<1
Density	875 kg/m ³ (0.875 g/cm ³) at 15°C
Solubility	Insoluble in cold water.
Viscosity	Kinematic: 111 mm ² /s (111 cSt) at 40°C Kinematic: 14.5 to 15 mm ² /s (14.5 to 15 cSt) at 100°C
Viscosity Index	140

10. Stability and reactivity

Stability and Reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame. Keep away from sources of ignition.
Incompatibility with various substances	Reactive with oxidizing agents.
Hazardous Decomposition Products	Products of combustion: carbon oxides (CO, CO ₂), sulfur oxides (SO ₂ , SO ₃ ...) and oxides of phosphorus .
Hazardous polymerization	Will not occur.

11. Toxicological information

Acute toxicity	Toxicity testing not conducted. Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhea. At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.
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Chronic toxicity

Carcinogenic effects

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

Other chronic toxicity data

Studies have shown that used motor oil causes skin tumors after a long latency period (over one year) in a low percentage of mice (below 10%;) when applied to the skin twice a week for their lifetimes. The material was not washed off between applications. A skin cancer risk may exist for people from prolonged or repeated contact with used motor oil in the absence of good personal hygiene.

In case of contact, wash exposed skin thoroughly with soap and water or use waterless hand cleaners to remove used motor oils from skin. Do not use gasoline, thinners, or solvents. Wear protective clothing and impervious gloves when working with used motor oils. Remove oil-soaked

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clothing, including shoes, and thoroughly clean and dry before reuse.

12. Ecological information

Ecotoxicity	Ecological testing has not been conducted on this product by BP. Unlikely to be harmful to aquatic organisms.
Persistence/degradability	Inherently biodegradable
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, UN , IMO, IATA/ICAO).

15. Regulatory information

S. Federal regulations US INVENTORY (TSCA): In compliance.

TSCA 12(b) one-time export notification:: DIPHENYLAMINE (<0.5%)
TSCA 12(b) annual export notification: ALKYLATED PHENOL (P-00-346) (1-2%)
This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 313

Form R - Reporting requirements	Product name	CAS number	Concentration
	Zinc compound	68649-42-3	0.218 - 1.0682

Supplier notification This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: This material is not regulated under CERCLA Sections 103 and 107.

Massachusetts RTK:DIPHENYLAMINE

New Jersey:DIPHENYLAMINE

Pennsylvania RTK:DIPHENYLAMINE (environmental hazard, generic environmental hazard)

WARNING: This product contains a chemical known to the State of California to cause cancer. ARSENIC

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Benzene; Lead; Cadmium

State regulations

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Inventories

AUSTRALIAN INVENTORY (AICS): Not listed.
CANADA INVENTORY (DSL): In compliance.
CHINA INVENTORY (IECS): Not listed.
EC INVENTORY (EINECS): In compliance. For restricted use only.
JAPAN INVENTORY (ENCS): Not listed.
KOREA INVENTORY (ECL): In compliance.
PHILIPPINE INVENTORY (PICCS): Not listed.

16. Other information

Label Requirements

WARNING!
MAY CAUSE EYE IRRITATION.

HMIS® Rating :

Health	1	National Fire Protection Association (U.S.A.)
Flammability	1	
Physical Hazard	0	
Personal protection	X	



History

Date of issue 11/16/2004.
Date of previous issue No Previous Validation.
Prepared by Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.

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Material Safety Data Sheet



Revision Number: 0023

Issue date: 10/03/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite(R) Nickel Grade Anti-Seize
Product type: Grease
Company address: Henkel Corporation, One Henkel Plaza, Rock Hill, Connecticut 06007
IDH number: 23200
Item number: 51200
Region: United States
Contact information: Telephone: 860.511.5100
E-MAIL: ERGENC@P...: P...n Control Center
1-800-331-0000 toll free or 1-303-512-1111
R...NSPOR... ERGENC@P...: CHE...REC
1-800-233-300 toll free or 1-303-523-3000
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Solid
Color: Gray
Odor: Odorless
HEALTH: 2
FLAMMABILITY: 0
PHYSICAL HAZARD: 1
Personal Protection: See SDS Section 8
DANGER: EXTREMELY FLAMMABLE
CONTAINS UNDER PRESSURE
HARMFUL OR IRRITATING
CAUSE EFFECTS IN NO RESPIRATOR OR PROTECTIVE GEAR OR FATAL

Relevant routes of exposure: Skin, Inhalation, Eye, Ingestion

Potential Health Effects

Inhalation: Repeated or prolonged exposure to dusts or vapors may irritate the respiratory tract and cause bronchitis and emphysema. Central nervous system depression may occur. Fatigue, headache, dizziness, and nausea may occur. Extreme overexposure may result in unconsciousness and death. Intentional or accidental inhalation of concentrated and highly concentrated dusts may be harmful or fatal.
Skin contact: May cause irritation due to defatting of the skin.
Eye contact: Direct contact may irritate and cause eye redness.
Ingestion: Not expected under normal conditions of use.

Existing conditions aggravated by exposure: Not available

This material is considered a hazard under the OSHA Hazard Communication Standard (29 CFR 1910.1200)

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Styrene	100-02-5	10 - 30
n-Hexane	110-52-3	10 - 30
n-Heptane	142-92-5	10 - 30
Octane	100-98-9	10 - 30
Propane	49-93-9	10 - 30
Nickel	7440-02-0	5 - 10
Graphite	7440-2-5	1 - 5
Styrene	100-02-5	1 - 5
Iron nitride	12002-5	0.1 - 1

4. FIRST AID MEASURES

- Inhalation:** Move to fresh air. If adverse health effects develop, seek medical attention.
- Skin contact:** Remove contaminated clothing and footwear. Wash affected areas with soap and water. If irritation develops, seek medical attention. A skin test before reuse.
- Eye contact:** Immediately flush eyes with water for at least 15 minutes. Do not rub eyes. Seek medical attention at once.
- Ingestion:** Do not induce vomiting. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

- Flash point:** -1°C @ 0.1% concentration for solvent.
- Flashback:** This product exhibits flashback when tested for flame extension.
- Flame projection:** 122.00 cm @ 0.03 inch.
- Autoignition temperature:** Not available.
- Flammable/Explosive limits - lower:** Not available.
- Flammable/Explosive limits - upper:** Not available.
- Extinguishing media:** Carbon dioxide, water, alcohol.
- Special firefighting procedures:** Use water spray to cool fire exposed containers and disperse vapors. Wear self-contained breathing apparatus and full protective clothing and turn off gas.
- Unusual fire or explosion hazards:** Content under pressure. Do not handle or store near an open flame or heat or other source of ignition. Do not puncture or incinerate pressurized containers. Exposed to temperatures above 120°C may cause container to burst.
- Hazardous combustion products:** Oxide of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow to enter in surface ground water.

Clean-up methods: Remove the spilled material and place in an appropriate collection container for disposal in designated area.

7. HANDLING AND STORAGE

Handling: Avoid breathing vapors or dusts of this product. Avoid contact with eyes, skin and clothing. Wear a respirator, heat exchanger and flame arrester. Will accept late reading and a finite exposure. Ensure adequate ventilation.

Storage: Not available.

Shelf Life Statement: Not available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Distillate petroleum products treated sea naphthenic	5 ppm 3 ppm 10 ppm 3 ppm S.E. ppm	5 ppm 3 ppm 500 ppm 2,000 ppm 3 ppm 5 ppm 3 ppm ppm	None	None
n-Hexane	S.I.N. 50 ppm 3 ppm	500 ppm 1,000 ppm 3 ppm	None	None
n-Heptane	500 ppm 3 ppm 500 ppm S.E. ppm	500 ppm 2,000 ppm 3 ppm	None	None
Octane	1,000 ppm 3 ppm	None	None	None
Propane	1,000 ppm 3 ppm	1,000 ppm 1,000 ppm 3 ppm	None	None
Nicel	1.5 ppm 3 ppm Inhalable fraction	1 ppm 3 ppm Inhalable fraction	None	None
Granite	2 ppm 3 ppm Respirable fraction	5 ppm 3 ppm Respirable fraction 15 ppm 3 ppm total dust 15 ppm PPC	None	None
Distillate petroleum products treated sea paraffinic	5 ppm 3 ppm 10 ppm 3 ppm S.E. ppm	5 ppm 3 ppm ppm	None	None
Oil not considered or fume	1 ppm 3 ppm Respirable fraction	15 ppm 3 ppm Inhalable dust 5 ppm 3 ppm Respirable dust	None	None

Engineering controls: Use local ventilation if general ventilation is insufficient to maintain a safe concentration level. Evaluate exposure limits.

Respiratory protection: If personal exposure cannot be controlled, use appropriate hood or respirator. Wear a properly fitted organic vapor cartridge respirator or approved NIOSH or OSHA respirator for respirators. See 29 CFR 1910.134.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Use cold resistant protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Clear liquid
Color: Gray
Odor: Mild Petroleum
Odor threshold: Not available
pH: Not available
Vapor pressure: Not available
Boiling point/range: 0 - 212 °F (100 - 100°C) None
Melting point/ range: Not available

Specific gravity: 0.87
Vapor density: Not available
Flash point: -1°C (0.1 $^{\circ}\text{C}</math> for refrigerant)
Flashback: No direct explosion flame observed when tested for flame extension
Flame projection: 122.00 cm (3.03 inches)
Flammable/Explosive limits - lower: Not available
Flammable/Explosive limits - upper: Not available
Autoignition temperature: Not available
Evaporation rate: Not available
Solubility in water: Not available
Partition coefficient (n-octanol/water): Not available
VOC content: 2.00 / 5.2 %$

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous reactions: No known reactions
Hazardous decomposition products: Irritating organic compounds, Oxide of carbon
Incompatible materials: Oxidizing agent
Conditions to avoid: See MSDS for heat, sparks and flame; do not concentrate or expose to temperatures above 120°C (250 $^{\circ}\text{F}$)

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Hydrochlorofluorocarbon (HCFC) - treated	Known carcinogen	Group 1	No
n-Hexane	No	No	No
n-Heptane	No	No	No
Propane	No	No	No
Nicel	Anticipated carcinogen	Group 2	No
Grease	No	No	No
Hydrochlorofluorocarbon (HCFC) - paraffinic	No	No	No
Chlorofluorocarbon (CFC) - refrigerant	No	No	No

Hazardous components	Health Effects/Target Organs
Hydrochlorofluorocarbon (HCFC) - treated	Irritant
n-Hexane	Peripheral Irritant; Nervous System; Reproductive
n-Heptane	Central nervous system Irritant
Propane	Cardiac; Central nervous system Irritant
Nicel	Chlorinated Carcinogen; Irritant; Dermal; Eye; Reproductive; Respiratory
Grease	No
Hydrochlorofluorocarbon (HCFC) - paraffinic	Irritant
Chlorofluorocarbon (CFC) - refrigerant	Central nervous system Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not expected to impact drainage surface water or ground water

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: incineration Federal, State and Local government environmental regulations

Hazardous waste number: 001: Inflammable

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Nickel
Hazard class or division: 2.1
Identification number: N 1550
Packing group: None
DOT Reportable quantity: Nickel hexane

International Air Transportation (ICAO/IATA)

Proper shipping name: Nickel
Hazard class or division: 2.1
Identification number: N 1550
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: EROSOLS
Hazard class or division: 2.1
Identification number: N 1550
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substance Control Act Inventory

TSCA 12(b) Export Notification: N-Hexane CAS# 102-02-5

CERCLA/SARA Section 302 EHS: None as a reportable chemical

CERCLA/SARA Section 311/312: Pre-hazardous Immediate Health-related Health

CERCLA/SARA 313: Product contains the following toxic chemical Product to be reported pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act of 1990
CAS# 102-02-5 Hexane CAS# 110-53-3 Nickel CAS# 7440-02-0

California Proposition 65: Product contains a chemical known in the State of California to cause cancer
 Product contains a chemical known to the State of California to cause birth defects or other reproductive harm

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed or are exempt from listing on the Canadian Domestic Substance List

WHMIS hazard class: 5.2 2.2

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New information added in Section 5

Prepared by: Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Material Safety Data Sheet



1. Product and company identification

Product name	AUTRAN SYN 295
Product use	Automatic transmission fluid. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Liquid.
Color	Red.
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Synthetic base stock. Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	1 - 5
Base oil - highly refined	Varies	1 - 5

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4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point	Open cup: 235°C (455°F) [Cleveland.]
Fire/explosion hazards	In a fire or if heated, a pressure increase will occur and the container may burst.
Extinguishing media	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous combustion products	Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)
Protective clothing (fire)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods for cleaning up	
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
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Storage Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable Prolonged exposure to elevated temperature

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction NIOSH REL (United States). TWA: 5 mg/m ³ 10 hours. Issued/Revised: 6/1994 Form: Mist STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 6/1994 Form: Mist OSHA PEL (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/1993
Base oil - highly refined	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction NIOSH REL (United States). TWA: 5 mg/m ³ 10 hours. Issued/Revised: 6/1994 Form: Mist STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 6/1994 Form: Mist OSHA PEL (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Red.
Flash point	Open cup: 235°C (455°F) [Cleveland.]
Density	850 kg/m ³ (0.85 g/cm ³) at 15°C
Viscosity	Kinematic: 38 mm ² /s (38 cSt) at 40°C Kinematic: 7.4 mm ² /s (7.4 cSt) at 100°C
Solubility	insoluble in water.

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10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
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12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability	Not expected to be rapidly degradable.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b)	All components are listed or exempted.
SARA 302/304:	No products were found.
SARA 311/312 Hazards identification:	Immediate (acute) health hazard
SARA 313	

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Form R - Reporting requirements	This product does not contain any hazardous ingredients at or above regulated thresholds.
Supplier notification	This product does not contain any hazardous ingredients at or above regulated thresholds.
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: Ethyl acrylate: 1000 lbs. (454 kg);
State regulations	
Massachusetts Substances	None of the components are listed.
New Jersey Hazardous Substances	None of the components are listed.
Pennsylvania RTK Hazardous Substances	None of the components are listed.
California Prop. 65	WARNING: This product contains a chemical known to the State of California to cause cancer. Ethyl acrylate
Other regulations	
Canada inventory	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

16. Other information

Label requirements CAUTION !
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :

Health	1	National Fire Protection Association (U.S.A.)	
Flammability	1		
Physical Hazard	0		
Personal protection	X		

History

Date of issue 04/30/2013.
Date of previous issue No previous validation.
Prepared by Product Stewardship

 **Indicates information that has changed from previously issued version.**

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the

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product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Product name

Product code

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Format US

Language ENGLISH

(US)

(ENGLISH)

Material Safety Data Sheet



Revision Number: 0031

Issue date: 01112011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Nickel Grade Anti-Seize
Product type: Grease
Company address: Henkel Corporation
 One Henkel Plaza
 Rock Hill, Connecticut 06007
IDH number: 23502
Item number: 12
Region: United States
Contact information:
 Telephone: 0515100
 Emergency telephone: 00515100
 Internet: henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	White	HEALTH:	1
Color:	Grey	FLAMMABILITY:	1
Odor:	Petroleum	PHYSICAL HAZARD:	0
WARNING:	Causes Eye Irritation Causes Severe Irritation	Personal Protection:	See SDS Section 8

Relevant routes of exposure: Skin

Potential Health Effects

Inhalation: Causes allergic reaction. Repeated or prolonged contact may lead to skin irritation, dermatitis or acne.
Skin contact: Causes allergic reaction. Repeated or prolonged contact may lead to skin irritation, dermatitis or acne.
Eye contact: Contact with eyes will cause irritation.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Existing conditions aggravated by exposure: Eye disorders, Skin disorders

OSHA 1910.1200
 See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Petroleum distillate	Proprietary	30 - 60
Nickel	0000-02-0	10 - 30
Graffiti	0002-02-5	10 - 30
Sodium petrosulfonate	Proprietary	1 - 5
Other ingredients not considered toxic or flammable	0200-0-5	1 - 5

4. FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air and seek medical attention if breathing is difficult.
Skin contact: Wash with water. If inhaled, remove to fresh air and seek medical attention.

Eye contact: In case of contact with the eye, rinse immediately with plenty of water for 15 minutes and seek immediate medical attention.

Ingestion: Irritation of the stomach and throat and may induce vomiting. Get medical attention.

Notes to physician: Irritation of the stomach or a reaction may occur.

5. FIRE FIGHTING MEASURES

Flash point: 3 °C (37 °F)

Autoignition temperature: Not available

Flammable/Explosive limits - lower: Not available

Flammable/Explosive limits - upper: Not available

Extinguishing media: foam, carbon dioxide

Special firefighting procedures: None

Unusual fire or explosion hazards: None

Hazardous combustion products: metal oxides, carbon dioxide, aluminum oxide, nickel

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Contain spill.

Clean-up methods: Store in a tightly sealed container until disposal. Scrape into a collection material as appropriate.

7. HANDLING AND STORAGE

Handling: Use only in adequate ventilation. Do not get on skin or clothing. Do not create a fire or explosion hazard. After handling.

Storage: Store away from heat, sparks, flames, other sources of ignition in a cool, well-ventilated area. Container closed.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Petroleum distillate	5 ppm 3 hr TWA 10 ppm 3 hr STEL 5 ppm 3 hr Inhalable fraction	5 ppm 3 hr TWA 500 ppm 2:000 5 ppm 3 hr Inhalable fraction	None	None
Nicel	1.5 ppm 3 hr Inhalable fraction	1 ppm 3 hr TWA None	None	None
Grate	2 ppm 3 hr Respirable fraction	5 ppm 3 hr Respirable fraction 15 ppm 3 hr total dust 15 ppm PPCD	None	None
Sodium peroxide difluoride	None	None	None	None
Other non-hazardous dust or fume	1 ppm 3 hr Respirable fraction	15 ppm 3 hr TWA total dust 5 ppm 3 hr Inhalable Respirable dust	None	None

Engineering controls:

Use appropriate down-draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

Respiratory protection:

Observe OSHA regulations for respirators (29 CFR 1910.134) and use a NIOSH approved powered air respirator with an organic cartridge filter potential to exceed established exposure limits. Observe OSHA regulations for respirators (29 CFR 1910.134) and use a NIOSH approved powered air respirator with an organic cartridge filter potential to exceed established exposure limits.

Eye/face protection:

Safety goggles or safety glasses to side shield. Safety goggles or safety glasses to side shield.

Skin protection:

Neoprene or resistant glove. Neoprene or resistant glove.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

White

Color:

White

Odor:

Petroleum

Odor threshold:

Not available

pH:

Not available

Vapor pressure:

5 mm Hg @ 20°C

Boiling point/range:

Not available

Melting point/ range:

Not available

Specific gravity:

1.1

Vapor density:

Not available

Flash point:

3°C @ 100 mm

Flammable/Explosive limits - lower:

Not available

Flammable/Explosive limits - upper:

Not available

Autoignition temperature:

Not available

Evaporation rate:

Not available

Solubility in water:

None

Partition coefficient (n-octanol/water):

Not available

VOC content:

200 g/200 ml

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous reactions: No flammable
Hazardous decomposition products: No data
Incompatible materials: Strong oxidizing agent
Conditions to avoid: No data

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Petroleum distillate	No	No	No
Nickel	Anticarcinogen	Group 2	No
Grade	No	No	No
Sodium perfluorinate	No	No	No
Other non-hazardous components	No	No	No

Hazardous components	Health Effects/Target Organs
Petroleum distillate	Irritant
Nickel	Respiratory Carcinogen, Irritant, Reproductive, Reproductive
Grade	No
Sodium perfluorinate	No Target Organ
Other non-hazardous components	Central nervous system, Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal

Hazardous waste number: Not a RCRA hazardous waste

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substance Control Act Inventory
TSCA 12(b) Export Notification: None applicable
CERCLA/SARA Section 302 EHS: None applicable
CERCLA/SARA Section 311/312: Release Health Hazard
CERCLA/SARA 313: This product contains the following toxic chemical component to the reporting requirement of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1990
CAS# 2002-0000 is not considered or free CAS# 200-5000
California Proposition 65: This product contains a chemical known in the State of California to cause cancer

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed or are exempt from listing on the Canadian Domestic Substance List
WHMIS hazard class: 2.2

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: Not available

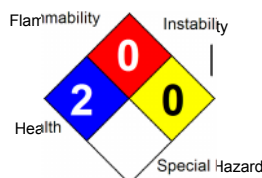
Prepared by: Our Safety and Regulatory Information contact: Regulatory Affairs, Rick Hill, CAS 000-500-5200
Regulatory Affairs Specialist

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MATERIAL SAFETY DATA SHEET

R-134a Refrigerant

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Printed: 10/28/2013
Revision: 10/25/2013
Supersedes Revision: 04/10/2003
Date Created: 03/24/2003

1. Product and Company Identification

Product Code: 811-0134
Product Name: R-134a Refrigerant
Reference #: R-134A
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Chemical Family: Fluorocarbons
CAS Number: 811-97-2
Part Number: 887881040A, 887881040SKID, 887881040TL
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Ethane, 1,1,1,2-Tetrafluoro-	811-97-2	100.0 %	NO DATA	NO DATA	NO DATA
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethane, 1,1,1,2-Tetrafluoro-	K18842500	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Physical hazards: Compressed liquified gas

Health Hazards: Harmful(Central Nervous system depression, cardiac arrhythmia)

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

INHALATION: High atmospheric concentrations may lead to anaesthetic effects, including loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal. Higher concentrations may cause asphyxiation due to reduced oxygen content of the atmosphere.

SKIN CONTACT: Liquid splashes or spray may cause freeze burns. Unlikely to be hazardous by skin absorption.

EYE CONTACT: Liquid splashes or spray may cause freeze burns.

INGESTION: Highly unlikely, but should this occur, freeze burns will result.

OTHER EFFECTS OF OVEREXPOSURE: None expected.

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Recommended Exposure Limits

No ACGIH TLV or OSHA PEL assigned

LD 50 / LC 50

4 hour LC50 in rats > 500,000 ppm

Signs and Symptoms Of Exposure

GENERAL: The health hazard assessment is based on toxicity studies together with information from a search of the scientific literature and other commercial sources.

INGESTION: Extremely unlikely to occur

EYE CONTACT: Burning sensation, similar to freeze burns.

SKIN CONTACT: Burning sensation, similar to freeze burns and/or frost-like bite lesions.

SKIN ABSORPTION: This product will probably not be absorbed through human skin.

INHALATION: Exposure to very high vapor concentrations can induce anesthetic effects progressing from dizziness, weakness, nausea, to unconsciousness. It can act as an asphyxiant by limiting available oxygen. At very high doses, cardiac sensitization to circulating epinephrine-like compounds can result in fatal cardiac arrhythmia.

OTHER EFFECTS OF OVEREXPOSURE: None expected.

Medical Conditions Generally Aggravated By Exposure

Not available

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : Compressed Gas

TARGET ORGANS & EFFECTS: Heart, Eyes, Skin, Central Nervous System

4. First Aid Measures

Emergency and First Aid Procedures

SKIN: Thaw affected area with water. Remove contaminated clothing. Caution: Clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of warm water. If symptoms (irritation or blistering) develop, get medical attention.

EYES: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and treated by medical personnel.

INGESTION: Not applicable.

INHALATION: Remove victim to fresh air. Keep warm and at rest. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is labored, give oxygen. In the event of cardiac arrest, apply external cardiac massage. Do not administer adrenaline or similar sympathomimetic drugs as cardiac arrhythmia may result. Get immediate medical attention.

5. Fire Fighting Measures

Flash Pt:

N.A. Method Used: Not Applicable

Explosive Limits:

LEL: No data.

UEL: No data.

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Autoignition Pt: N.A.

Fire Fighting Instructions

Not applicable. Self contained breathing apparatus with full facepiece and protective clothing.

Flammable Properties and Hazards

GENERAL HAZARDS: Compressed liquified gas. HFC 134A is not flammable in air under ambient conditions of temperature and pressure. In laboratory tests, under conditions of high pressure, HFC 134A/air mixtures were shown to be flammable. In general, for the test equipment used, at temperatures up to 170 deg. C, flammable mixtures were only produced at pressures greater than 50 psia, and with more than 50 volume % air. Mixtures of HFC 134A should not be used for pressure or leak testing. Thermal decomposition will evolve toxic and irritant vapors.

Hazardous Combustion Products

No data available.

Extinguishing Media

Not applicable. Use media suitable for surrounding fire. Use water spray to cool containers.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Shut off leak if without risk. Ventilate the spill area. If possible dike and contain spillage. Prevent liquid from entering sewers, sumps or pit areas, since vapor can create suffocating atmosphere. Use self-contained breathing apparatus to avoid suffocation. Allow spilled liquid to evaporate. Protect against frost-bite from evaporating liquid.

7. Handling and Storage

Precautions To Be Taken in Handling

Keep at temperatures not exceeding 113 deg F (45 deg C). Keep in a cool place. Keep containers dry. Keep away from direct sunlight, heat and sources of ignition.

Precautions To Be Taken in Storing

No data available.

Other Precautions

None others

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

Not normally needed, if controls are adequate. If needed, use MSHA-NIOSH approved respirator for organic vapors. For high concentrations and oxygen-deficient atmospheres, use positive pressure air-supplied respirator.

Eye Protection

Chemical tight goggles; full faceshield in addition if splashing is possible.

Protective Gloves

Impervious gloves if any possibility of skin contact with the liquid.

Other Protective Clothing

Additional protection may be required such as apron, arm covers, or full body suit, depending on conditions.

Engineering Controls (Ventilation etc.)

Ventilate low-lying areas such as sumps or pits where dense vapors may collect. Use ventilation adequate to maintain safe levels. Provide eyewash station in work area.

Work/Hygienic/Maintenance Practices

None others available.

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9. Physical and Chemical Properties

Physical States:	[X] Gas [] Liquid [] Solid
Melting Point:	N.A. - N.A.
Boiling Point:	- 15.10 F (-9.4 C)
Autoignition Pt:	N.A.
Flash Pt:	N.A. Method Used: Not Applicable
Specific Gravity (Water = 1):	1.23 at 20.0 C (68.0 F)
Vapor Pressure (vs. Air or mm Hg):	4268 MMHG at 20.0 C (68.0 F)
Vapor Density (vs. Air = 1):	3.3 N.A.
Evaporation Rate:	N.A.
Solubility in Water:	very low N.A.
Percent Volatile:	100.0 % by weight.
pH:	NA

Appearance and Odor

Colorless liquified gas/ Faint ethereal odor.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

None known

Incompatibility - Materials To Avoid

Finely divided metals, magnesium and alloys containing more than 2% magnesium. Can react violently if in contact with alkali or alkali earth metals such as sodium, potassium or barium.

Hazardous Decomposition Or Byproducts

Halogen acids by thermal decomposition and hydrolysis.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

ANIMAL DATA: The inhalation 4 hour LC50 in rats was greater than 500,000 ppm HFC 134A. Because of its volatility, this compound has not been tested for skin or eye irritancy, or skin sensitization. The threshold for cardiac sensitization (arrhythmia) in dogs pretreated with epinephrine was an atmosphere of 75,000 ppm. No effect of any kind was seen in a 90-day inhalation study in the rat at dose levels up to, and including, 50,000ppm (6 hours per day, 5 days per week).

No developmental effects were seen in the rabbit following inhalation exposure to 40,000 ppm during gestation despite slight maternal toxicity. In a range-finding study in the rabbit, possible minimal embryoletality was seen at a dose level of 50,000 ppm administered during gestation and no effects were seen at 10,000 ppm. In another study in the rat, no developmental effects were seen at a dose of 100,000 ppm in the presence of slight maternal toxicity; clear maternal effects were followed by embryotoxicity and fetotoxicity at a dose level of 300,000 ppm. There were no increases in the incidence of fetal malformations in rats or rabbits at doses up to and including 300,000 and 50,000 ppm, respectively. HFC 134A showed no genetic toxicity in a range of in-vitro and in-vivo tests. No adverse effects were found in a study in which rats were followed to week 104 after receiving 300 mg/kg bodyweight/day of HFC134A by gavage for 52 weeks. In a 2-year inhalation study in rats, no adverse effects of any kind were observed except increased incidences of non-life threatening, benign microscopic testicular interstitial (Leydig) cell tumors and associated interstitial cell hyperplasia which were

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confined to the top dose of 50,000 ppm.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity:

NTP? No

IARC Monographs? No

OSHA Regulated? No

12. Ecological Information

General Ecological Information

PERSISTENCE AND DEGRADATION: Decomposes comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 15.6 years. Products of decomposition will be highly dispersed and hence will have a very low concentration. Does not influence photochemical smog (ie. it is not a VOC under the terms of the UNEC convention). Has no effect on the ozone layer.

EFFECT ON EFFLUENT TREATMENT: Discharges of the product will enter the atmosphere and will not result in long term aqueous contamination.

13. Disposal Considerations

Waste Disposal Method

DISPOSAL METHOD: Discarded product is not a hazardous waste under RCRA, 40 CFR 261.

CONTAINER DISPOSAL: For disposable (DOT 39) cylinders only. Do not distribute, make available, furnish or reuse empty container when once emptied of the original product. Open valve to remove pressure in the cylinder if permissible under the Clean Air Act (see Sections 608, 609). Then puncture, drill, crush or otherwise destroy empty cylinder and dispose of in a facility permitted for nonhazardous waste.

REFRIGERATION APPLICATION: Subject to "NO VENTING" regulations of Sections 608 and 609 of the Clean Air Act during the service or disposal of equipment.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name 1,1,1,2-Tetrafluoroethane

DOT Hazard Class: 2.2

DOT Hazard Label: NONFLAMMABLE GAS

UN/NA Number: UN3159

Additional Transport Information

No data available.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethane, 1,1,1,2-Tetrafluoro-	811-97-2	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethane, 1,1,1,2-Tetrafluoro-	811-97-2	No	No	Inventory, 8D TERM	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

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Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

TSCA (Toxic Substances Control Act) Regulation, 40 CFR 710: All ingredients are on the TSCA chemical Substance Inventory.

CERCLA and SARA Regulations (40 CFR 355, 370, and 372): This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

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16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF HINO MOTOR SALES USA. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. HINO MOTOR SALES USA. ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.


CCI MANUFACTURING IL CORPORATION

 15550 Canal Bank Rd., P.O. Box 339, Lemont, IL 60439 U.S.A.
 TEL +1-630-739-0606 FAX +1-630-739-1116

Material Safety Data Sheet

 MSDS No. 10352
 Date : 1/2/2012

 Page 1 of 5
 HINO LLC-EX PLUS COOLANT

HINO EXTENDED LONG LIFE COOLANT

 Emergency Number : General Information :
 Chemtrec : 800/424-9300 CCI : 630/739-0606

SECTION I - IDENTIFICATION

 Product : HINO LLC-EX PLUS COOLANT
 Synonyms : None
 Chemical Family : Ethylene Glycol solution of salts
 CAS No. : Mixture - no single CAS number applicable

SECTION II - INGREDIENTS

<u>Components</u>	<u>CAS No.</u>	<u>Nominal %</u>	<u>Hazard Code</u>	<u>PEL/TLV</u>	<u>Hazard</u>
Ethylene Glycol	107-21-1	40 - 50 %	A	Ceiling : 100mg/m [Aerosol only]	Respiratory irritant Ingestion may produce liver, brain and kidney damage.
Diethylene Glycol	111-46-6	Less than 3 %	A	None	Ingestion may produce liver and kidney damage.
Hydrated inorganic acid, organic acid salts	Proprietary	Less than 5 %	N/A	None	None noted
Water	7732-18-5	45 - 55 %	N/A	None	None noted

SECTION III - HEALTH INFORMATION

Inhalation : Breathing excessive levels of the vapor or mist can irritate the respiratory tract. Excessive vapor concentrations of the major component (ethylene glycol), as might be generated during heating of this material, have occasionally been reported to cause adverse effects on the blood - forming system and the nervous system.

Ingestion : The acute oral toxicities of the components of this mixture are as follows :

Ethylene Glycol

The lowest dose reported to produce death in humans was estimated to be 710 mg/kg body weight; for a person weighting 150 pounds, this would be equivalent to drinking about one and one-half (1.5) fluid ounces of pure ethylene glycol in a short period of time.

Acute oral LD50's = 4,700 mg/kg (rat)
5,500 mg/kg (mouse)

Diethylene Glycol

Acute oral LD50's = 12,600 mg/kg (rat)
23,700 mg/kg (mouse)

Eye Contact : Based on the pH and irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation or inflammation of the eyes.

Skin contact : The acute dermal LD50 of the major component(ethylene glycol) of this product is 9,530mg/kg(rabbits). Based on the pH and the irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation of the skin.

Carcinogenicity Listing IARC : () OSHA : () NTP : () Not listed : (X)

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

PEL(OSHA Permissible Exposure Limit) : None established for mixture, See Section II.
TLV(ACGIH Threshold Limit Value) : None established for mixture, See Section II.

SECTION V - EMERGENCY FIRST AID PROCEDURE

For Overdose Exposure By :

Swallowing : If victim is conscious and able to swallow, quickly have victim drink water or milk to dilute. Do NOT give sodium bicarbonate, fruit juices or vinegar. NEVER give anything by mouth if victim is unconscious or having convulsions. Induce vomiting only if advised by physician or Poison Control Center. CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

Skin Contact : Immediately flush skin with plenty of water while removing contaminated clothing.

Eye Contact : Immediately flush eyes with plenty of cool water for at least 15 minutes. Do NOT permit victim to rub eyes. GET MEDICAL ATTENTION IMMEDIATELY.

Inhalation : Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION VI - PHYSICAL DATA

Boiling Point :	Higher than 226F
Melting Point :	Lower than -34F
Vapor Pressure :	Not determined
Density (20C) :	1.08 g/cm ³
Vapor Density (Air = 1) :	Not determined
pH (Original) :	7.8
Solubility in Water :	Infinite miscibility
Appearance and Color :	Clear, slightly viscous, blue dyed liquid

SECTION VII - FIRE AND EXPLOSION HAZARDS

Flash Point :	None
Auto-Ignition Temperature :	Not determined (752F for ethylene glycol)
Flammable Limits in Air, %by Vol.	
Lower :	Not determined (3.2% for ethylene glycol)
Upper :	Not determined (15.3% for ethylene glycol)
NFPA Rating :	Health (1) Flammability (1) Reactivity (0)
HMIS Rating :	Health (1) Flammability (1) Physical Hazard (0)
Fire Fighting Procedures :	(Note : Individuals should perform only those firefighting procedures for which they have been trained.) Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a spill or leak has not ignited, use water spray to disperse the vapors. Water spray may be used to flush spills away from fire and diluted spills to noncombustible proportions(see warning on water spray on hot glycol below.)
Unusual Fire & Explosion Hazards :	Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full face piece when, there is a possibility of exposure to smoke, fumes or hazardous decomposition products. Water spray may cause foaming of hot glycol so indirect application of water spray or use of other extinguishing media should be used on hot glycol.

SECTION VIII - REACTIVITY

Stability :	Generally stable
Hazardous Polymerization :	Not likely to occur
Conditions and Materials to Avoid :	Avoid concentrated strong acids, oxidizing agents and bases. Do not expose to open flame.
Hazardous Decomposition Products :	If pyrolyzed, thermal decomposition products of residue may include C, CO, CO ₂ , H ₂ O, NH ₃ , organic vapors and nitrogen-containing.

SECTION IX - EMPLOYEE PROTECTION

Control Measures :	Handle in the presence of adequate ventilation. Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure criteria (see Section II and IV), including enclosures and local exhaust ventilation.
Respiratory Protection :	Where exposure is likely to exceed acceptable criteria (see Section II and IV) and engineering controls are not feasible, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air and in accordance with OSHA (29 CFR 1910.134)
Protective Clothing :	Wear gloves and protective clothing which are impervious to the product for the duration of exposure if there is potential for skin contact.
Eye Protection :	Wear safety glasses meeting the specifications of ANSI Standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specification of ANSI Standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

SECTION X - ENVIRONMENTAL PROTECTION

Environmental Precautions :	Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill release response plan should be developed and implemented.
Spill or Leak Procedures :	Wear appropriate respiratory equipment and protective equipment as described in Section IX. Contain spilled material. Transfer to secure containers. Where necessary, collect using absorbent media. In the event of an uncontrolled release is reportable under the applicable laws and regulations.
Waste Disposal :	All recovered material should be packaged, labeled, transported, and disposed of or reclaimed in conformance with good engineering practices. Avoid land filling of liquids. Reclaim where possible.

SECTION XI - REGULATORY CONTROLS

Department of Transportation :	
DOT Classification (Bulk) :	Class 9 miscellaneous
DOT Proper Shipping Name :	Environmentally Hazardous Substance Liquid n.o.s. (ethylene glycol), 9, UN3082, III
DOT Classification (Non-bulk) :	Not regulated
IATA (Non-bulk) :	Not regulated
IMDG Code (Non-bulk) :	Not regulated
Other Regulatory Requirements :	
<u>Toxic Substance Control Act</u> :	This product is a mixture : therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.
<u>SARA Hazard Categories (as defined in Section 311/312)</u>	

SECTION XI - REGULATORY CONTROLS(CONTINUED)

Health	Immediate (Acute) and Delayed (Chronic)
Physical	None
	The product contains greater than 40% ethylene glycol (CAS# 107-21-1) which is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

California Proposition 65

This product does not contain any substances currently listed under California Proposition 65.

SECTION XII - PRECAUTIONS : HANDLING, STORAGE AND USAGE

- To prevent possible storage container rupture, do not permit to freeze; See Section VI.
- Do not expose children and pets to this material.
- Keep container closed.
- Keep away from open flames.
- After handling product, wash thoroughly with soap and water before drinking, eating, or smoking.
- Container hazardous when emptied. Since emptied containers retain product residues, all hazardous precautions described on this MSDS must be observed.

SECTION XIII - CONTACT INFORMATION

The information presented herein is believed to be factual as it has been derived from the works and opinions of people believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which CCI Manufacturing IL Corporation bears legal responsibility. The user should review any recommendation in the specific context of intended use to determine whether they are appropriate.

Prepared By CCI MANUFACTURING IL CORPORATION

For further information contact :

Technical Manager
CCI MANUFACTURING IL CORPORATION
15550 Canal Bank Rd
Lemont, IL 60439
(630)-739-0606

MATERIAL SAFETY DATA SHEET

Non-Chlorinated Brake Parts Cleaner

Page: 1



Printed: 10/28/2013

Revision: 10/25/2013

Date Created: 02/28/2011

1. Product and Company Identification

Product Code: 730-116898-A
Product Name: Non-Chlorinated Brake Parts Cleaner
Reference #: B-22794
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234007
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Xylene (mixed isomers)	1330-20-7	1.0 -5.0 %	100 ppm	100 ppm	No data.
2. Acetone	67-64-1	40.0 -55.0 %	1000 ppm	500 ppm	No data.
3. n-Hexane	110-54-3	15.0 -25.0 %	500 ppm	50 ppm	No data.
4. Heptane	142-82-5	15.0 -25.0 %	500 ppm	400 ppm	No data.
5. Carbon dioxide	124-38-9	1.0 -10.0 %	No data.	No data.	No data.

Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Xylene (mixed isomers)	ZE2100000	No data.	No data.	No data.	No data.
2. Acetone	AL3150000	No data.	No data.	No data.	No data.
3. n-Hexane	MN9275000	No data.	No data.	No data.	No data.
4. Heptane	MI7700000	No data.	No data.	No data.	No data.
5. Carbon dioxide	FF6400000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

DANGER EXTREMELY FLAMMABLE LIQUID AND VAPOR. MAY CAUSE FLASH FIRE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES, RESPIRATORY TRACT. AFFECTS THE CENTRAL AND PERIPHERAL NERVOUS SYSTEMS.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Inhalation: Inhalation of vapors irritates the respiratory tract. May produce light headedness, dizziness, disorientation, coughing, blurred vision, muscle incoordination, loss of appetite and nausea. Higher concentrations can produce central nervous system depression, unconsciousness, coma, and possible death. Chronic inhalation may cause peripheral nerve disorders and central nervous system effects.

Ingestion: May produce abdominal pain, nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms expected to parallel inhalation.

Skin Contact: May cause mild irritation, redness, pain, dryness or cracking. Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis.

MATERIAL SAFETY DATA SHEET

Non-Chlorinated Brake Parts Cleaner

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Eye Contact: Vapors may irritate the eyes. Splashes may produce redness, stinging, tearing, pain.

Signs and Symptoms Of Exposure

Irritation to skin, eyes, mucous membranes. May produce light headedness, dizziness, muscle incoordination, loss of appetite, abdominal pain and/or nausea. May cause redness of skin.

Medical Conditions Generally Aggravated By Exposure

Persons with pre-existing skin disorders or impaired pulmonary function may be more susceptible to the effects of this substance.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic, Irritant

PHYSICAL HAZARDS : Flammable Gas, Flammable Liquid/Solid

TARGET ORGANS & EFFECTS: Lungs, Kidney, Eyes, Skin, Liver, Central Nervous System, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Aspiration hazard. Do NOT induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Flash Pt: < 20.00 F (-6.7 C) Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Flammable Properties and Hazards

Flammable liquid and vapor. Vapor-air mixtures may be explosive. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Hazardous Combustion Products

Oxides of carbon including carbon monoxide and carbon dioxide.

Extinguishing Media

Dry chemical, foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Released material will most likely occur as an aerosol. Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. If released as a liquid, or liquid product forms as a result of a release, contain and recover liquid when possible. Use nonsparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material and place in a chemical waste container. Do not use combustible materials such as saw dust. Do not flush to sewer. If a leak or spill has not ignited, use water spray to disperse the vapours, to protect personnel attempting to stop leak, and to flush spills away from exposures.

7. Handling and Storage

Precautions To Be Taken in Handling

Avoid contact with eyes and skin. Do not inhale, do not swallow. Use in well ventilated areas only. Keep away from sources of heat, sparks and open flame. Protect from physical damage including punctures, and crushing.

Precautions To Be Taken in Storing

Store in well ventilated area away from sources of heat, sparks, open flame and sunlight. Keep cool (below 120 F) to avoid possible can eruption. Separate from incompatibles. Protect against physical damage.

Other Precautions

Containers may be hazardous when empty since they retain product residues (vapors, liquid). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

If the exposure limit of any component is exceeded, a half-face organic vapor respirator may be worn for up to 10 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmosphere.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Protective Gloves

Chemical resistant/impervious gloves.

Other Protective Clothing

Impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Engineering Controls (Ventilation etc.)

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.

Work/Hygienic/Maintenance Practices

Follow good manufacturing practices including washing after use and before eating, drinking or smoking.

9. Physical and Chemical Properties

Physical States: [X] Gas [X] Liquid [] Solid

Melting Point: No data.

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Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	< 20.00 F (-6.7 C) Method Used: Estimate
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
VOC / Volume:	< 45.0000 WT%

Appearance and Odor

Aerosol, mixture of propellant and liquid.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

Stable under ordinary conditions of use and storage. Heat will contribute to instability, keep away from heat, flames, ignition sources and incompatibles.

Incompatibility - Materials To Avoid

Strong oxidizers, such as chlorine, permanganates and dichromates, concentrated nitric and sulfuric acid mixtures, chloroform, alkalis, chlorine compounds, acids, or potassium t-butoxide.

Hazardous Decomposition Or Byproducts

Carbon dioxide and carbon monoxide may form when heated to decomposition. May produce acrid smoke and irritation fumes when heated to decomposition.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

Other toxicological Information:

Inhalations rat LC: 103 gm/m³/4H (Heptane)

Irritation eye rabbit: 10 mg mild (Hexane)

Oral rat LD50-LC50: 4300mg/kg

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

This product contains the following materials which have been shown some evidence of reproductive effects in laboratory animals: Xylene

This product contains the following materials which may affect a developing fetus: Hexane

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Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Due to fast evaporation of this product, waste disposal is not expected to occur with released product. Virgin product is a RCRA hazardous waste, and disposal should be in accordance with all Federal, State, and local laws and regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Aerosols, flammable
DOT Hazard Class: 2.1
DOT Hazard Label: FLAMMABLE GAS
UN/NA Number: UN1950

Additional Transport Information

This product may be reclassified in accordance with 49CFR 173.306.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Xylene (mixed isomers)	1330-20-7	No	Yes 100 LB	Yes	Yes
2. Acetone	67-64-1	No	Yes 5000 LB	No	Yes
3. n-Hexane	110-54-3	No	Yes 5000 LB	Yes	No
4. Heptane	142-82-5	No	No	No	No
5. Carbon dioxide	124-38-9	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Xylene (mixed isomers)	1330-20-7	HAP	Yes	Inventory	No
2. Acetone	67-64-1	No	No	Inventory, 4 Test	No
3. n-Hexane	110-54-3	HAP	No	Inventory, 4 Test	No
4. Heptane	142-82-5	No	No	Inventory, 4 Test, 8A PAIR	No
5. Carbon dioxide	124-38-9	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

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Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes [] No Acute (immediate) Health Hazard
- Yes [] No Chronic (delayed) Health Hazard
- Yes [] No Fire Hazard
- Yes [] No Sudden Release of Pressure Hazard
- [] Yes No Reactive Hazard

Regulatory Information

TSCA: All ingredients in this product are on the TSCA Inventory or are otherwise exempt.

Prop 65: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF HINO MOTOR SALES USA. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. HINO MOTOR SALES USA. ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.

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MATERIAL SAFETY DATA SHEET
Non-Chlorinated Brake Parts Cleaner Ultra Low
VOC



Printed: 10/28/2013
Revision: 10/25/2013

Date Created: 02/28/2011

1. Product and Company Identification

Product Code: 730-116899-A
Product Name: Non-Chlorinated Brake Parts Cleaner Ultra Low VOC
Reference #: LAB 769
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234008
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Toluene	108-88-3	1.0 -5.0 %	200 ppm	50 ppm	No data.
2. Acetone	67-64-1	90.0 -95.0 %	1000 ppm	500 ppm	No data.
3. Carbon dioxide	124-38-9	4.0 -10.0 %	5000 ppm	5000 ppm	No data.

Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Toluene	XS5250000	500 ppm/(10min)	300 ppm	No data.	No data.
2. Acetone	AL3150000	No data.	No data.	750 ppm	No data.
3. Carbon dioxide	FF6400000	No data.	No data.	30,000 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger: Extremely Flammable. Vapor Harmful. Harmful or Fatal if Swallowed. Contents under pressure.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? N.A.

Potential Health Effects (Acute and Chronic)

Inhalation: Dizziness, breathing difficulties, anesthetic effects, nausea and irritation to respiratory tract.

Eyes: Irritation

Skin: Irritation, contact dermatitis, and possible defatting of the skin.

Ingestion: Potential aspiration hazard.

Chronic Overexposure may cause nervous system damage.

Signs and Symptoms Of Exposure

Inhalation: Dizziness, breathing difficulties, nausea and irritation or discomfort.

Eyes: Irritation

Skin: Irritation and redness.

Ingestion: Irritation to gastrointestinal tract.

Medical Conditions Generally Aggravated By Exposure

Breathing Problems

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OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : Compressed Gas, Flammable Gas

TARGET ORGANS & EFFECTS: Lungs, Eyes, Skin, Central Nervous System, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. Give artificial respiration if necessary.

Eyes: Flush with large amounts of water for 15 minutes.

Skin: Remove contaminated clothing and wash area with soap and water.

Ingestion: Call a physician. Do not induce vomiting.

5. Fire Fighting Measures

Flash Pt: < 20.00 F (-6.7 C) Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Remove containers from fire area if possible. Use self-contained breathing apparatus for fire fighting. Use water spray to keep containers cool.

Flammable Properties and Hazards

Contents under pressure. Exposure to heat may cause containers to burst releasing flammable components. Both liquid and gas components of the aerosol are highly flammable. Liquid is also highly volatile with a flash point below ambient temperatures.

Hazardous Combustion Products

Combustions of hydrocarbons, primarily carbon dioxide and carbon monoxide.

Extinguishing Media

CO2, foam and fog

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Usually not a problem with aerosols. Area should be ventilated. Absorbent should be used to pick up excess liquid material. All used and unused product should be disposed of in accordance with federal, state and local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Do not use near sources of heat, sparks or open flame. Use in well ventilated areas only. Do not breathe vapors. Avoid contact with eyes and skin.

Precautions To Be Taken in Storing

Store in a cool, dry area. Aerosol cans must be maintained below 120°F to prevent cans from exploding. Keep out of reach of children.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

Use NIOSH/MSHA compliant respirators or self-contained breathing apparatus above exposure limits. Follow OSHA regulations 29CFR 1910.134.

Eye Protection

Safety glasses.

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Non-Chlorinated Brake Parts Cleaner Ultra Low
VOC

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Protective Gloves

Wear chemically protective gloves.

Other Protective Clothing

Use a splash apron and boots if splashing occurs.

Engineering Controls (Ventilation etc.)

Adequate to prevent accumulation of vapors. Use mechanical means if necessary to maintain levels below the exposure limits. If working in a confined space, follow applicable OSHA regulations.

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States:	[X] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	< 20.00 F (-6.7 C) Method Used: Estimate
Specific Gravity (Water = 1):	0.793
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	100.0 % by weight.
VOC / Volume:	21.0000 G/L
pH:	NA

Appearance and Odor

Liquid component is a clear, water-white liquid with distinct odor.

All information in Section 9 pertains only to the liquid component of the aerosol, except for the following which pertain to product as packaged (both liquid and gaseous components):

- VOC/Volume
- Percent Volatile

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability	High temperatures, heat, sparks, and flame.
Incompatibility - Materials To Avoid	Strong oxidizing agents.
Hazardous Decomposition Or Byproducts	Oxides of carbon.
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization	None known.

MATERIAL SAFETY DATA SHEET
Non-Chlorinated Brake Parts Cleaner Ultra Low
VOC

11. Toxicological Information

Toxicological Information

Long-term toxicological studies have not been conducted for this product. See Section 3 of this MSDS for acute symptoms of overexposure.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

This material is not an OSHA, IARC, or NTP carcinogen.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

This material if discarded may be hazardous waste under U.S. EPA RCRA regulations. All disposal activities must comply with federal, state and local regulations. Contact your local or state environmental agency for specific rules. Do not dump into sewers, on the ground, or into any body of water.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Aerosols, flammable
DOT Hazard Class: 2.1
DOT Hazard Label: FLAMMABLE GAS
UN/NA Number: UN1950

Additional Transport Information

This product may be reclassified in accordance with 49 CFR 173.306.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Toluene	108-88-3	No	Yes 1000 LB	Yes	Yes
2. Acetone	67-64-1	No	Yes 5000 LB	No	Yes
3. Carbon dioxide	124-38-9	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Toluene	108-88-3	HAP	Yes	Inventory, 8A CAIR	Yes
2. Acetone	67-64-1	No	No	Inventory, 4 Test	No
3. Carbon dioxide	124-38-9	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

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VOC

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.
5A(2): Chemical Subject to Significant New Rules (SNURS)
6A: Commercial Chemical Control Rules
8A: Toxic Substances Subject To Information Rules on Production
8A CAIR: Comprehensive Assessment Information Rules - (CAIR)
8A PAIR: Preliminary Assessment Information Rules - (PAIR)
8C: Records of Allegations of Significant Adverse Reactions
8D: Health and Safety Data Reporting Rules
8D TERM: Health and Safety Data Reporting Rule Terminations
12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

Yes [] No Acute (immediate) Health Hazard
 Yes [] No Chronic (delayed) Health Hazard
 Yes [] No Fire Hazard
 Yes [] No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

TSCA: All components are either listed under TSCA or are exempt.

Prop 65: This product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF HINO MOTOR SALES USA. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. HINO MOTOR SALES USA. ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.

MATERIAL SAFETY DATA SHEET

Dex-Cool 50/50 Long Life Coolant

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Printed: 10/28/2013
Revision: 10/28/2013

Date Created: 01/05/2006

1. Product and Company Identification

Product Code: 805-117967
Product Name: Dex-Cool 50/50 Long Life Coolant
Reference #: 805-01790004
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234016
Revision Date: 10/28/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Ethylene glycol	107-21-1	30.0 -60.0 %	No data.	No data.	No data.
2. Diethylene glycol	111-46-6	0.0 -7.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethylene glycol	KW2975000	No data.	No data.	50 ppm	100 mg/m3 (H)
2. Diethylene glycol	ID5950000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Exposure to this product and/or its components may cause stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, kidney damage.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Eye: May cause mild eye irritation.

Skin: May cause mild skin irritation. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage through the skin may add to toxic effects from breathing or swallowing.

Swallowing: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation: Breathing of vapor or mist is possible.

Signs and Symptoms Of Exposure

Exposure to this product and/or its components may be evidenced by the following symptoms: nausea, vomiting, diarrhea, irritation or discomfort, giddiness, liveliness, light-headed feeling, dizziness, drowsiness, weakness, fatigue, headache, unconsciousness and/or involuntary eye movement.

Medical Conditions Generally Aggravated By Exposure

No data available.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic, Irritant

PHYSICAL HAZARDS : No Physical Hazards

TARGET ORGANS & EFFECTS: Kidney, Liver, Central Nervous System

4. First Aid Measures

Emergency and First Aid Procedures

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physician

This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounces oral "shots" of 86 proof, or higher whiskey before or during transport to the hospital. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death. The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.

5. Fire Fighting Measures

Flash Pt: > 200.00 F (93.3 C)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

Flammable Properties and Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, and various hydrocarbons.

Extinguishing Media

Alcohol foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Small Spill: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill: Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. Handling and Storage

Precautions To Be Taken in Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Precautions To Be Taken in Storing

No data available.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure. If needed use a NIOSH/MSHA jointly approved dust respirator.

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses.

Protective Gloves

Wear resistant gloves such as neoprene, nitrile rubber, polyvinyl chloride.

Other Protective Clothing

To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Engineering Controls (Ventilation etc.)

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: > 200.00 F (93.3 C)

MATERIAL SAFETY DATA SHEET

Dex-Cool 50/50 Long Life Coolant

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Specific Gravity (Water = 1):	1.07 - 1.15	at 60.0 F (15.6 C)
Vapor Pressure (vs. Air or mm Hg):	No data.	
Vapor Density (vs. Air = 1):	No data.	
Evaporation Rate:	No data.	
Solubility in Water:	Complete	
Percent Volatile:	No data.	

Appearance and Odor

Orange liquid with bitter taste.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

None known.

Incompatibility - Materials To Avoid

Strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Carbon dioxide, carbon monoxide, and various hydrocarbons.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

Will not occur.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

Ethylene glycol has caused birth defects in animal studies at high oral doses.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose of in accordance with all applicable local, state and federal regulations. Destruction by liquid incineration is recommended.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not Regulated

Additional Transport Information

The Reportable Quantity (RQ) for Ethylene Glycol is 5539 lbs.

The information contained in Section 14 applies only to the material when packaged in non-bulk containers with a capacity of less than 5000 lbs. If this product is shipped in bulk other regulations may apply.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethylene glycol	107-21-1	No	Yes 5000 LB	Yes	No
2. Diethylene glycol	111-46-6	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethylene glycol	107-21-1	HAP	No	Inventory, 4 Test	No
2. Diethylene glycol	111-46-6	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations
- 12(b):** Notice of Export

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
- Yes No Chronic (delayed) Health Hazard
- Yes No Fire Hazard
- Yes No Sudden Release of Pressure Hazard
- Yes No Reactive Hazard

MATERIAL SAFETY DATA SHEET

Dex-Cool 50/50 Long Life Coolant

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Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: This product is not known to contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

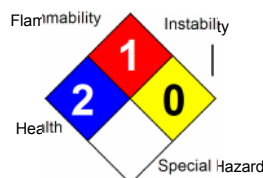
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MATERIAL SAFETY DATA SHEET

Green 50/50 Coolant

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Date Created: 01/05/2006

1. Product and Company Identification

Product Code: 805-118589
Product Name: Green 50/50 Coolant
Reference #: 805-01790004
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234017
Revision Date: 10/28/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Ethylene glycol	107-21-1	50.0 -60.0 %	No data.	No data.	No data.
2. Diethylene glycol	111-46-6	1.5 -5.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethylene glycol	KW2975000	No data.	No data.	50 ppm	100 mg/m3 (H)
2. Diethylene glycol	ID5950000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Exposure to this product and/or its components may cause stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, kidney damage.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Eye: May cause mild eye irritation.

Skin: May cause mild skin irritation. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage through the skin may add to toxic effects from breathing or swallowing.

Swallowing: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation: Breathing of vapor or mist is possible.

Signs and Symptoms Of Exposure

Exposure to this product and/or its components may be evidenced by the following symptoms: nausea, vomiting, diarrhea, irritation or discomfort, giddiness, liveliness, light-headed feeling, dizziness, drowsiness, weakness, fatigue, headache, unconsciousness and/or involuntary eye movement.

Medical Conditions Generally Aggravated By Exposure

No data available.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic, Irritant

PHYSICAL HAZARDS : No Physical Hazards

TARGET ORGANS & EFFECTS: Kidney, Liver, Central Nervous System

4. First Aid Measures

Emergency and First Aid Procedures

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physician

This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounces oral "shots" of 86 proof, or higher whiskey before or during transport to the hospital. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death. The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.

5. Fire Fighting Measures

Flash Pt: > 200.00 F (93.3 C)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

Flammable Properties and Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, and various hydrocarbons.

Extinguishing Media

Alcohol foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Small Spill: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill: Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. Handling and Storage

Precautions To Be Taken in Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Precautions To Be Taken in Storing

No data available.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure. If needed use a NIOSH/MSHA jointly approved dust respirator.

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses.

Protective Gloves

Wear resistant gloves such as neoprene, nitrile rubber, polyvinyl chloride.

Other Protective Clothing

To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Engineering Controls (Ventilation etc.)

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: > 200.00 F (93.3 C)

MATERIAL SAFETY DATA SHEET

Green 50/50 Coolant

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Specific Gravity (Water = 1):	1.07 - 1.09	at 60.0 F (15.6 C)
Vapor Pressure (vs. Air or mm Hg):	No data.	
Vapor Density (vs. Air = 1):	No data.	
Evaporation Rate:	No data.	
Solubility in Water:	Complete	
Percent Volatile:	No data.	
pH:	10.0 - 11.0	

Appearance and Odor

Green liquid with bitter taste.

10. Stability and Reactivity

Stability: Unstable [] Stable []**Conditions To Avoid - Instability**

None known.

Incompatibility - Materials To Avoid

Strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Carbon dioxide, carbon monoxide, and various hydrocarbons.

Hazardous Polymerization: Will occur [] Will not occur []**Conditions To Avoid - Hazardous Polymerization**

Will not occur.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

Ethylene glycol has caused birth defects in animal studies at high oral doses.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose of in accordance with all applicable local, state and federal regulations. Destruction by liquid incineration is recommended.

14. Transport Information

LAND TRANSPORT (US DOT)**DOT Proper Shipping Name** Not Regulated**Additional Transport Information**

The Reportable Quantity (RQ) for Ethylene Glycol is 5539 lbs.

The information contained in Section 14 applies only to the material when packaged in non-bulk containers with a capacity of less than 5000 lbs. If this product is shipped in bulk other regulations may apply.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethylene glycol	107-21-1	No	Yes 5000 LB	Yes	No
2. Diethylene glycol	111-46-6	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethylene glycol	107-21-1	HAP	No	Inventory, 4 Test	No
2. Diethylene glycol	111-46-6	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations
- 12(b):** Notice of Export

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
- Yes No Chronic (delayed) Health Hazard
- Yes No Fire Hazard
- Yes No Sudden Release of Pressure Hazard
- Yes No Reactive Hazard

MATERIAL SAFETY DATA SHEET

Green 50/50 Coolant

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Printed: 10/28/2013
Revision: 10/28/2013

Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: This product is not known to contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

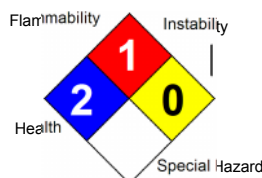
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MATERIAL SAFETY DATA SHEET

HD GO-5 50/50 Coolant

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Revision: 10/28/2013

Date Created: 01/05/2006

1. Product and Company Identification

Product Code: 750-1034
Product Name: HD GO-5 50/50 Coolant
Reference #: 805-01790004
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234018
Revision Date: 10/28/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Ethylene glycol	107-21-1	50.0 -60.0 %	No data.	No data.	No data.
2. Diethylene glycol	111-46-6	0.0 -7.0 %	No data.	No data.	No data.
3. Benzenemethanaminium, N-[2-[(2,6-Dimethylphenyl)amino]-2-oxo	3734-33-6	0.01 -0.04 %	No data.	No data.	No data.
4. Boron sodium oxide (B4Na2O7)	1330-43-4	0.0 -6.5 %	10 mg/m3 TWA	1 mg/m3	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethylene glycol	KW2975000	No data.	No data.	50 ppm	100 mg/m3 (H)
2. Diethylene glycol	ID5950000	No data.	No data.	No data.	No data.
3. Benzenemethanaminium, N-[2-[(2,6-Dimethylphenyl)amino]-2-oxo	BO6650000	No data.	No data.	No data.	No data.
4. Boron sodium oxide (B4Na2O7)	ED4588000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Exposure to this product and/or its components may cause stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, kidney damage.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Eye: May cause mild eye irritation.

Skin: May cause mild skin irritation. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage through the skin may add to toxic effects from breathing or swallowing.

Swallowing: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation: Breathing of vapor or mist is possible.

Signs and Symptoms Of Exposure

Exposure to this product and/or its components may be evidenced by the following symptoms: nausea, vomiting, diarrhea, irritation or discomfort, giddiness, liveliness, light-headed feeling, dizziness, drowsiness, weakness, fatigue, headache, unconsciousness and/or involuntary eye movement.

Medical Conditions Generally Aggravated By Exposure

No data available.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic, Irritant

PHYSICAL HAZARDS : No Physical Hazards

TARGET ORGANS & EFFECTS: Kidney, Liver, Central Nervous System

4. First Aid Measures

Emergency and First Aid Procedures

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physician

This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounces oral "shots" of 86 proof, or higher whiskey before or during transport to the hospital. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death. The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.

5. Fire Fighting Measures

Flash Pt: > 200.00 F (93.3 C)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

Flammable Properties and Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, and various hydrocarbons.

Extinguishing Media

Alcohol foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Small Spill: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill: Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. Handling and Storage

Precautions To Be Taken in Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Precautions To Be Taken in Storing

No data available.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure. If needed use a NIOSH/MSHA jointly approved dust respirator.

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses.

Protective Gloves

Wear resistant gloves such as neoprene, nitrile rubber, polyvinyl chloride.

Other Protective Clothing

To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Engineering Controls (Ventilation etc.)

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Melting Point: No data.

MATERIAL SAFETY DATA SHEET
HD GO-5 50/50 Coolant

Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	> 200.00 F (93.3 C)
Specific Gravity (Water = 1):	1.07 - 1.08 at 77.0 F (25.0 C)
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	Complete
Percent Volatile:	No data.
pH:	7.5 - 8.5

Appearance and Odor
Yellow liquid with bitter taste.

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability	None known.
Incompatibility - Materials To Avoid	Strong oxidizing agents.
Hazardous Decomposition Or Byproducts	Carbon dioxide, carbon monoxide, and various hydrocarbons.
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization	Will not occur.

11. Toxicological Information

Toxicological Information	No data available.
Chronic Toxicological Effects	No data available.
Carcinogenicity/Other Information	Ethylene glycol has caused birth defects in animal studies at high oral doses.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information	No data available.
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13. Disposal Considerations

Waste Disposal Method	Dispose of in accordance with all applicable local, state and federal regulations. Destruction by liquid incineration is recommended.
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14. Transport Information

LAND TRANSPORT (US DOT)	
DOT Proper Shipping Name	Not Regulated
Additional Transport Information	The Reportable Quantity (RQ) for Ethylene Glycol is 5539 lbs.

The information contained in Section 14 applies only to the material when packaged in non-bulk containers with

a capacity of less than 5000 lbs. If this product is shipped in bulk other regulations may apply.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethylene glycol	107-21-1	No	Yes 5000 LB	Yes	No
2. Diethylene glycol	111-46-6	No	No	No	No
3. Benzenemethanaminium, N-[2-[(2,6-Dimethylphenyl)amino]-2-oxo	3734-33-6	No	No	No	No
4. Boron sodium oxide (B4Na2O7)	1330-43-4	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethylene glycol	107-21-1	HAP	No	Inventory, 4 Test	No
2. Diethylene glycol	111-46-6	No	No	Inventory	No
3. Benzenemethanaminium, N-[2-[(2,6-Dimethylphenyl)amino]-2-oxo	3734-33-6	No	No	Inventory	No
4. Boron sodium oxide (B4Na2O7)	1330-43-4	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

MATERIAL SAFETY DATA SHEET

HD GO-5 50/50 Coolant

Page: 6

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Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: This product is not known to contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

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16. Other Information

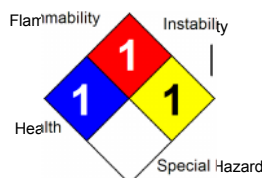
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MATERIAL SAFETY DATA SHEET

Ceramic Anti-Seize

Page: 1



Printed: 10/28/2013

Revision: 10/25/2013

Date Created: 10/24/2012

1. Product and Company Identification

Product Code: GSC-0034-12
Product Name: Ceramic Anti-Seize
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234019
Revision Date: 10/25/2013

2. Hazards Identification

Emergency Overview

May cause eye and skin irritation.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Eyes: May cause irritation.

Skin: May cause irritation.

Ingestion: May cause nausea, irritation, or other discomfort.

Inhalation: May cause irritation.

Signs and Symptoms Of Exposure

Eyes: Redness, tearing, irritation or other signs of discomfort.

Skin: Redness, irritation or other signs of discomfort.

Inhalation: Irritation or other discomfort.

Ingestion: Irritation or other discomfort.

Medical Conditions Generally Aggravated By Exposure

Preexisting skin disorders.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : No Physical Hazards

TARGET ORGANS & EFFECTS: Eyes, Skin

3. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration
1. Synthetic base oils, mixture	NA	>90.0 %

4. First Aid Measures

Emergency and First Aid Procedures

Ingestion: If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Move to fresh air in case of accidental inhalation of vapours. Get medical attention/advice if you feel unwell.

Skin Contact: Remove contaminated clothing. Wash area with soap and water. If irritation persists, seek medical attention.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. Fire Fighting Measures

Flash Pt: > 500.00 F (260.0 C) Method Used: Cleveland Open Cup

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Treat as oil fire. As with all fires involving chemicals, responders should wear full bunker gear including a self-contained breathing apparatus. Cool containers to keep them from bursting, and remove from high heat areas if possible. Do not direct a solid stream of water at pools of released liquid that are burning since it may cause spattering of the burning liquid.

Flammable Properties and Hazards

May cause a slip hazard.

Hazardous Combustion Products

Oxides of carbon.

Suitable Extinguishing Media

Carbon Dioxide, Dry Chemicals, Foam.

Unsuitable Extinguishing Media

Water jet.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid spilling product as it may cause surfaces to become slippery.

Precautions To Be Taken in Storing

Store away from heat.

Other Precautions

Do not weld on this product.

8. Exposure Controls/Personal Protection

Chemical Name	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Synthetic base oils, mixture	NA	No data.	No data.	No data.

Respiratory Equipment (Specify Type)

Not normally necessary.

Eye Protection

Safety glasses.

Protective Gloves

Neoprene or nitrile gloves recommended.

Other Protective Clothing

No data available.

Engineering Controls (Ventilation etc.)

General ventilation is usually adequate.

Work/Hygienic/Maintenance Practices

Follow good manufacturing practices including washing after use, and before eating or smoking.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid
Melting Point: No data.
Boiling Point: No data.
Autoignition Pt: No data.
Flash Pt: > 500.00 F (260.0 C) Method Used: Cleveland Open Cup
Specific Gravity (Water = 1): ~ 0.94
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate: No data.
Solubility in Water: insoluble
Percent Volatile: No data.

Appearance and Odor

Purple semi-solid with a mild odor.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability
Stable under normal conditions.
Incompatibility - Materials To Avoid
Strong oxidizers.
Hazardous Decomposition Or Byproducts
Oxides of carbon.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions
None known.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Product as packaged is not a RCRA hazardous waste. Dispose in accordance with all Federal, State/Provincial and local laws and regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not regulated

Additional Transport Information

No data available.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Synthetic base oils, mixture	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Synthetic base oils, mixture	NA	No	No	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.

5A(2): Chemical Subject to Significant New Rules (SNURS)

6A: Commercial Chemical Control Rules

8A: Toxic Substances Subject To Information Rules on Production

8A CAIR: Comprehensive Assessment Information Rules - (CAIR)

8A PAIR: Preliminary Assessment Information Rules - (PAIR)

8C: Records of Allegations of Significant Adverse Reactions

8D: Health and Safety Data Reporting Rules

8D TERM: Health and Safety Data Reporting Rule Terminations

12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

MATERIAL SAFETY DATA SHEET

Ceramic Anti-Seize

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CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

CA Prop 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

Regulatory Information Statement

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16. Other Information

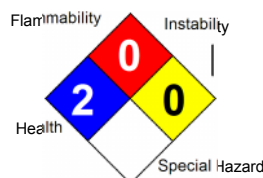
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MATERIAL SAFETY DATA SHEET

Diesel Cooling System Additive

Page: 1

Printed: 10/28/2013
Revision: 10/21/2013

Date Created: 10/21/2013

1. Product and Company Identification

Product Code: 805-0786
Product Name: Diesel Cooling System Additive
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234020
Revision Date: 10/21/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium nitrate	7757-79-1	1.0 -5.0 %	No data.	No data.	No data.
2. Sodium nitrite	7632-00-0	1.0 -5.0 %	No data.	No data.	No data.
3. Sodium molybdate(VI)	7631-95-0	1.0 -5.0 %	No data.	No data.	No data.
4. Sodium toluotriazole	64665-57-2	1.0 -5.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium nitrate	TT3700000	No data.	No data.	No data.	No data.
2. Sodium nitrite	RA1225000	No data.	No data.	No data.	No data.
3. Sodium molybdate(VI)	QA5075000	No data.	No data.	No data.	No data.
4. Sodium toluotriazole	NA	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

MAY BE HARMFUL IF SWALLOWED. MAY CAUSE SEVERE IRRITATION AND CORROSIVE DAMAGE IN THE MOUTH, THROAT AND STOMACH.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Acute:

Inhalation: Harmful if inhaled. If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe pain, vomiting, diarrhea, collapse and death.

Skin: May cause skin irritation.

Eyes: Causes severe eye irritation.

Signs and Symptoms Of Exposure

Inhalation: Adverse symptoms may include the following: respiratory tract irritation coughing

Ingestion: Adverse symptoms may include the following: stomach pains

Skin: Adverse symptoms may include the following: pain or irritation redness blistering may occur

Eyes: Adverse symptoms may include the following: pain watering redness

Medical Conditions Generally Aggravated By Exposure

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic

PHYSICAL HAZARDS : No Physical Hazards

TARGET ORGANS & EFFECTS: Eyes, Skin, Central Nervous System, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

In Case of Inhalation

Call medical doctor or poison control center immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention immediately.

In Case of Skin Contact

In case of contact, immediately flush skin with plenty of water removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

In Case of Eye Contact

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

In Case of Ingestion

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Note to Physician

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire Fighting Measures

Flash Pt: No data. Method Used: Not Applicable

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face- piece operated in positive pressure mode.

Flammable Properties and Hazards

In a fire or if heated, a pressure increase will occur and the container may burst. This product contains nitrite and nitrates which enhance the burning rate of other materials. Contact with combustible material may cause fire.

Hazardous Combustion Products

Carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides

Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Protective Precautions, Protective Equipment and Emergency Procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental Precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

7. Handling and Storage

Precautions To Be Taken in Handling

Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wash thoroughly after handling. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Precautions To Be Taken in Storing

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Other Precautions

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye Protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Protective Gloves

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other Protective Clothing

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Engineering Controls (Ventilation etc.)

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Work/Hygienic/Maintenance Practices

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental Exposure Controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and Chemical Properties

Physical States:	[] Gas	[X] Liquid	[] Solid
Melting Point:	No data.		
Boiling Point:	No data.		
Autoignition Pt:	No data.		
Flash Pt:	No data.	Method Used:	Not Applicable
Specific Gravity (Water = 1):	1.153	at	20.0 C (68.0 F)
Vapor Pressure (vs. Air or mm Hg):	No data.		
Vapor Density (vs. Air = 1):	No data.		
Evaporation Rate:	No data.		
Solubility in Water:	No data.		

Solubility Notes

Easily soluble in the following materials: cold water and hot water

Percent Volatile:	No data.
pH:	10.5

Appearance and Odor

Clear yellow liquid with a slight odor.

10. Stability and Reactivity

Stability:	Unstable []	Stable [X]
-------------------	--------------	--------------

Reactivity

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid - Instability

Avoid exposure - obtain special instructions before use.

Incompatibility - Materials To Avoid

Highly reactive or incompatible with the following materials: oxidizing materials and reducing materials.
Reactive or incompatible with the following materials: acids and moisture.

Hazardous Decomposition Or Byproducts

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not regulated

Additional Transport Information

The information in Section 14 pertains to shipments in non-bulk containers. If this product is shipped in bulk containers, it will have the following designation when shipped in amounts greater than 4000 pounds due to the RQ for Sodium Nitrite:

RQ, UN3082, Environmentally Hazardous Substance, Liquid, N.O.S., (Contains:Sodium Nitrite), 9, PG III

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium nitrate	7757-79-1	No	No	No	No
2. Sodium nitrite	7632-00-0	No	Yes 100 LB	Yes	No
3. Sodium molybdate(VI)	7631-95-0	No	No	No	No

MATERIAL SAFETY DATA SHEET

Diesel Cooling System Additive

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
4. Sodium toluotriazole	64665-57-2	No	No	No	No

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium nitrate	7757-79-1	No	No	Inventory	No
2. Sodium nitrite	7632-00-0	No	No	Inventory, 5A(2), 12(b)	No
3. Sodium molybdate(VI)	7631-95-0	No	No	Inventory	No
4. Sodium toluotriazole	64665-57-2	No	No	Inventory, 4 Test	No

US EPA CAA, CWA, TSCA

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations
- 12(b):** Notice of Export

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
- Yes No Chronic (delayed) Health Hazard
- Yes No Fire Hazard
- Yes No Sudden Release of Pressure Hazard
- Yes No Reactive Hazard

Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: This product is known to contain chemicals known to the State of California to cause cancer, birth

MATERIAL SAFETY DATA SHEET

Diesel Cooling System Additive

Page: 7

Printed: 10/28/2013
Revision: 10/21/2013

defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

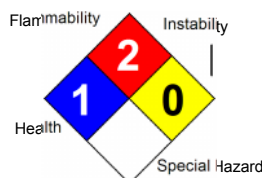
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MATERIAL SAFETY DATA SHEET

Diesel Fuel Lubricity Additive

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Printed: 10/28/2013
Revision: 07/11/2011
Supersedes Revision: 12/12/2007
Date Created: 05/14/1998

1. Product and Company Identification

Product Code: 730-1449
Product Name: Diesel Fuel Lubricity Additive
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234021
Revision Date: 07/11/2011

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Kerosine	8008-20-6	90.0 -95.0 %	NO DATA	NO DATA	14ppm
2. Proprietary additives	NA	5.0 -10.0 %	NO DATA	NO DATA	NO DATA
3. Naphthalene	91-20-3	0.01 -0.095 %	10 ppm	10 ppm	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Kerosine	OA5500000	No data.	No data.	No data.	No data.
2. Proprietary additives	NA	No data.	No data.	No data.	No data.
3. Naphthalene	QJ0525000	No data.	No data.	15 ppm	No data.

3. Hazards Identification

Emergency Overview

DANGER: Combustible liquid and vapor. Harmful or fatal if swallowed. Aspiration hazard. May cause severe skin irritation after prolonged or repeated contact. A component may cause allergic skin reaction. Causes eye irritation.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

EYE: Eye irritant. Contact may cause stinging, watering, redness, and swelling.

SKIN: Skin irritant. Contact may cause redness and burning of the skin. Prolonged or repeated contact may cause drying and cracking of the skin and severe skin damage. No harmful effects from skin absorption have been reported.

INHALATION: No information available. Studies by other exposure routes suggest a low degree of toxicity.

INGESTION: A component of this material is toxic. May be harmful if swallowed. Aspiration Hazard- This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs and Symptoms Of Exposure

Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, headaches, nausea, vomiting, diarrhea, signs of nervous system depression, abdominal pain, an allergic skin reaction through repeated contact, pneumoconiosis, blood disorders, and jaundice.

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Medical Conditions Generally Aggravated By Exposure

Skin disorders, blood disorders and liver disorders.

OSHA Hazard Classes:

HEALTH HAZARDS : Toxic, Irritant

PHYSICAL HAZARDS : Combustible Liquid

TARGET ORGANS & EFFECTS: Kidney, Eyes, Skin, Liver, Respiratory System, Blood

4. First Aid Measures

Emergency and First Aid Procedures

EYES: Move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek medical attention. For direct contact, hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

SKIN: Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

INHALATION: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious, place on the left side with the head down. If possible, do not leave victim unattended. Seek medical attention.

NOTE: IF AN ALLERGIC REACTION TO THIS MATERIAL DEVELOPS, AVOID ANY FURTHER CONTACT.

5. Fire Fighting Measures

Flash Pt: 52.20 C (126.0 F) Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. In addition, wear other appropriate protective equipment as conditions warrant. Isolate damage area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from danger area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Flammable Properties and Hazards

Vapors flammable. Material may pool on water and become floating fire hazards.

Hazardous Combustion Products

Oxides of carbon, primarily carbon dioxide and carbon monoxide.

Extinguishing Media

Foam, CO₂, dry chemical or halon is recommended. Use water spray to cool fire exposed surfaces and to protect personnel. Water may be ineffective for extinguishment, unless under favorable conditions by experienced fire fighters. Halon may decompose into toxic material. Carbon dioxide can displace oxygen. Use caution when applying halon or carbon dioxide in confined spaces.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Keep all sources of ignition and hot metal surfaces away from spill/release, use explosion proof equipment. Stay upwind and away from spill/release. Isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material. Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (800-424-8802).

7. Handling and Storage

Precautions To Be Taken in Handling

Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Vapor can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of respiratory protection is advised when concentrations exceed any established exposure limits. Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice. Empty containers retain residue (liquid and/or vapor) and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained properly bunged, and promptly shipped to the supplier or a drum recondition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to Occupational Safety and Health Administration Regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

Precautions To Be Taken in Storing

STORAGE: Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material. Protect container against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

The use of respiratory protection is advised when concentrations are expected to exceed the established exposure limits. Depending on the airborne concentration, use a respirator with appropriate cartridges or supplied-air equipment.

Eye Protection

Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.

Protective Gloves

Impervious gloves .

Other Protective Clothing

Eye wash and quick drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn.

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Engineering Controls (Ventilation etc.)

If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used.

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	52.20 C (126.0 F) Method Used: Pensky-Marten Closed Cup
Specific Gravity (Water = 1):	0.80 - 0.82 at 25.0 C (77.0 F)
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	> 90.0 % by weight.
Viscosity:	8 - 10.5 CST at 40.0 C (104.0 F)

Appearance and Odor

Amber colored, clear liquid; characteristic petroleum odor.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

Stable under normal conditions of storage and handling. Flammable liquid and vapor. Vapor can cause flash fire.

Incompatibility - Materials To Avoid

Avoid contact with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Combustion can yield major amounts of oxides of carbon and minor amounts of oxides of sulfur and nitrogen.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

Ingestion of naphthalene has caused hemolysis in humans deficient in glucose-6-phosphate dehydrogenase. Limited evidence of cataract formation and liver damage has been reported in laboratory animals. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

Application of kerosene to mouse skin, twice a week for 12 months, resulted in an increased incidence of skin tumors. It has not been identified as a carcinogen by NTP, IARC, or OSHA.

Female mice exposed via inhalation to naphthalene developed alveolar adenomas. This effect was not seen in male mice. It has not been identified as a carcinogen by NTP, IARC, or OSHA.

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Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

This material, as produced, exhibits the 40 CFR hazardous waste characteristic of ignitable. Dispose of in accordance with all Federal, State, Provincial and local laws and regulations.

RCRA Waste ID Code: D001

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Flammable liquids, nos, (Kerosene)
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: UN1993
Packing Group: III

Additional Transport Information

This material may be reclassified according to 49CFR 173.150.

The information contained in Section 14 pertains to the material when shipped in non-bulk containers. If the material is shipped in bulk containers different regulations may apply.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Kerosine	8008-20-6	No	No	No	No
2. Proprietary additives	NA	No	No	No	No
3. Naphthalene	91-20-3	No	Yes 100 LB	Yes	Yes

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Kerosine	8008-20-6	No	No	Inventory	No
2. Proprietary additives	NA	No	No	No	No
3. Naphthalene	91-20-3	HAP	Yes	Inventory, 4 Test, 8A PAIR	Yes

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

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Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
- Yes No Chronic (delayed) Health Hazard
- Yes No Fire Hazard
- Yes No Sudden Release of Pressure Hazard
- Yes No Reactive Hazard

Regulatory Information

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component	CAS number	Weight
Naphthalene	91-20-3	0-1%

WARNING: This material contains the following chemicals which are known to the State of California to cause Cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65: Benzene, Toluene, Naphthalene.

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. For carcinogenity information on individual components see Section 11.

EPA Reportable Quantity: RQ #1 Naphthalene
100 lb equal to 10000 lb, (1482 gal), of this material.

Regulatory Information Statement

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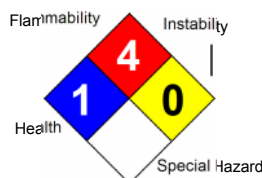
16. Other Information

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MATERIAL SAFETY DATA SHEET

White Lithium Grease



Printed: 10/28/2013
 Revision: 10/25/2013
 Supersedes Revision: 10/03/2007
 Date Created: 04/26/2007

1. Product and Company Identification

Product Code: 700-114156-A
Product Name: White Lithium Grease
Reference #: LAB 575-8
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
 41180 Bridge St.
 Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234022
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Hydrotreated light distillate (petroleum)	64742-47-8	10.0 -15.0 %	No data.	No data.	No data.
2. Solvent naphtha medium aliphatic	64742-88-7	25.0 -30.0 %	No data.	No data.	No data.
3. Propane	74-98-6	10.0 -15.0 %	1000 ppm	(2500 ppm)	No data.
4. Isobutane (2-Methylpropane)	75-28-5	5.0 -10.0 %	No data.	No data.	No data.
5. Mineral oil	64742-65-0	35.0 -45.0 %	No data.	No data.	No data.
6. Mineral oil, petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	2.0 -5.0 %	No data.	No data.	No data.
7. Lithium 12-hydroxystearate	7620-77-1	1.0 -3.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Hydrotreated light distillate (petroleum)	OA5504000	No data.	No data.	No data.	No data.
2. Solvent naphtha medium aliphatic	WF3450000	No data.	No data.	No data.	No data.
3. Propane	TX2275000	No data.	No data.	No data.	No data.
4. Isobutane (2-Methylpropane)	TZ4300000	No data.	No data.	No data.	No data.
5. Mineral oil	PY8038500	No data.	No data.	No data.	No data.
6. Mineral oil, petroleum distillates, hydrotreated heavy naphthenic	PY8035000	No data.	No data.	No data.	No data.
7. Lithium 12-hydroxystearate	NA	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

DANGER. Extremely Flammable. Contents under Pressure. Harmful or fatal if swallowed. Irritating to eyes, skin and mucous membranes. Vapor may cause flash fire! May be harmful if inhaled or absorbed through the skin! Overexposures may cause central nervous system (CNS) depression and/or other target organ effects! Aspiration into the lungs can cause pulmonary edema and chemical pneumonia!

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Inhalation: Breathing high concentrations of vapor may cause respiratory irritation, euphoria, excitation or giddiness, headache, nausea, vomiting, abdominal pain, loss of appetite, fatigue, muscular weakness, staggering gait, and central nervous system (CNS) depression. CNS effects include dizziness, drowsiness, disorientation, vertigo, memory loss, visual disturbances, difficulty with breathing, convulsions, unconsciousness, paralysis,

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coma, and even death, depending upon the level of exposure concentration and/or duration.

Eye Contact: Animal test results on similar materials suggest that this product can cause minimal to moderate eye irritation upon short-term exposure.

Skin contact: Animal test results on similar materials suggest that this product can cause moderate skin irritation. This material may also be absorbed through the skin and produce CNS depression effects (see "inhalation" above). If the skin is damaged, absorption increases. Prolonged and/or repeated contact may cause moderate to severe dermatitis.

Ingestion: If swallowed, this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Due to its light viscosity, there is a danger of aspiration into the lungs during vomiting. Aspiration can result in severe lung damage or death. Progressive CNS depression, respiratory insufficiency, and ventricular fibrillation may also result in death.

Signs and Symptoms Of Exposure

Inhalation: Irritation, discomfort, or signs of central nervous system depression (see health effects for listing).

Eye Contact: Stinging, watering, redness, and swelling.

Skin contact: Redness, itching, and burning of the skin. Chronic symptoms may include drying, swelling, scaling, blistering, cracking, and severe tissue damage.

Ingestion: Irritation, burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggering gait, drowsiness, loss of consciousness, and delirium, as well as additional central nervous system (CNS) effects (see "inhalation" above).

Medical Conditions Generally Aggravated By Exposure

Personnel with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : Combustible Liquid, Compressed Gas, Flammable Gas

TARGET ORGANS & EFFECTS: Lungs, Kidney, Eyes, Skin, Blood, Liver, Central Nervous System, Mucous Membranes, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation: Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.

Eye Contact: Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.

Skin Contact: Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists.

Ingestion: Do not induce vomiting or give anything by mouth. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give

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White Lithium Grease

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anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Note to Physician

Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Vigorous anti-inflammatory/steroid treatment may be required at first evidence of upper airway or pulmonary edema. Administer 100 percent humidified supplemental oxygen with assisted ventilation, as required.

If ingested, this material presents a significant aspiration/chemical pneumonitis hazard. As a result, induction of emesis is not recommended. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol. Also, treatment may involve careful gastric lavage if performed soon after ingestion or in patients who are comatose or at risk of convulsing. Protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. Obtain chest X-ray and liver function tests. Monitor for cardiac function, respiratory distress and arterial blood gases in severe exposure cases.

5. Fire Fighting Measures

Flash Pt: < -150.00 F (-101.1 C) Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

As with all fires involving chemicals, responders should wear full bunker gear and a self contained breathing apparatus. Use water spray to keep containers cool to prevent rupture of containers.

Flammable Properties and Hazards

Aerosols are a mixture of gases and liquids.

The gas component of this material is extremely flammable with a flashpoint of -156 F.

The liquid component of this material is a flammable liquid with a flashpoint of 96 F.

The liquid component will release vapors at or approaching its flash point temperature. When mixed with air in certain proportions and exposed to an ignition source, this vapor can cause a flash fire. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. May create vapor/air explosion hazard in confined spaces such as sewers.

If container is not properly cooled, containers will rupture in the heat of a fire.

Hazardous Combustion Products

Burning or excessive heating may produce smoke, carbon dioxide, and possibly other harmful gases/vapors.

Extinguishing Media

SMALL FIRE: Use dry chemicals, carbon dioxide (CO₂), foam, or inert gas (nitrogen).

LARGE FIRE: Use foam, water fog, or waterspray. Water fog and spray are effective in cooling and adjacent structures. A water jet may be used to cool the vessel's external walls to prevent pressure build-up, autoignition, or explosion. NEVER use a water jet directly on the fire because it may spread the fire to a larger area.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Release causes an immediate fire or explosion hazard. Evacuate all non-essential personnel from immediate area and establish a "regulated zone" with site control and security. Eliminate all ignition sources. Remove spillage immediately from hard, smooth walking areas. Prevent its entry into waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to appropriate waste containers. Use grounded and/or clean, non-sparking tools during clean-up operations.

7. Handling and Storage

Precautions To Be Taken in Handling

Do not handle or store near heat, sparks, or any other potential ignition sources. Do not contact with oxidizable materials. Do not breathe vapor. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin, and clothing. Prevent contact with food, chewing, or smoking materials. Do not take internally.

Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Precautions To Be Taken in Storing

Store and transport in accordance with all applicable laws. Keep containers tightly closed and store in a cool, dry, well ventilated place, plainly labeled, and out of closed vehicles. Keep away from all ignition sources! Keep away from children.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA). For known vapor concentrations above the occupational exposure guidelines, use NIOSH-approved organic vapor respirator if adequate protection is provided. Protection factors vary depending upon the type or respirator used. Respirator use should follow OSHA requirements or equivalent standard.

Eye Protection

Safety glasses with side shields are recommended as a minimum protection.

Protective Gloves

Avoid skin contact and use gloves (disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR).

Other Protective Clothing

If general contact occurs, IMMEDIATELY removed soaked clothing and take a shower. Contaminated leather goods should be removed and discarded.

Engineering Controls (Ventilation etc.)

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and/or mists below the pertinent exposure limits. All electrical equipment should comply with appropriate standards.

Work/Hygienic/Maintenance Practices

Before eating, drinking, smoking, use of toilet facilities, or leaving work, wash hands with plenty of mild soap and water. DO NOT use gasoline, kerosine, or other solvents, or harsh abrasive skin cleaners.

Ensure that an emergency eye wash station and safety shower are near the work-station location.

9. Physical and Chemical Properties

Physical States:	[X] Gas	[X] Liquid	[] Solid
Melting Point:	No data.		
Boiling Point:	No data.		
Autoignition Pt:	No data.		
Flash Pt:	< -150.00 F (-101.1 C) Method Used: Estimate		
Specific Gravity (Water = 1):	0.82 - 0.84	at 25.0 C (77.0 F)	
Vapor Pressure (vs. Air or mm Hg):	No data.		
Vapor Density (vs. Air = 1):	No data.		
Evaporation Rate:	No data.		
Solubility in Water:	No data.		

Solubility Notes

Insoluble in water

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White Lithium Grease

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Percent Volatile: No data.
VOC / Volume: 48.0000 WT%
Viscosity: 2700 CPS at 20.0 C (68.0 F)

Appearance and Odor

Liquid component is an off-white liquid with solvent/hydrocarbon odor.
Gaseous component has a strong hydrocarbon odor.

With the exception of VOC percentage and appearance and odor, all data in Section 9 pertains to the liquid component only.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

Keep away from extreme heat, strong acids, and strong oxidizing conditions.

Incompatibility - Materials To Avoid

Strong acids, alkalis, and oxidizers such as liquid chlorine, hydrogen peroxide, and oxygen.

Hazardous Decomposition Or Byproducts

No substances are readily identified from composition; but no degradation data is available.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

This product does not contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC, or NTP.

Reports have associated repeated and prolonged occupational overexposure to solvents with irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

As produced this material meets the RCRA definition for "ignitable". Dispose of in accordance with all Federal, State, Provincial, and local laws and regulations.

RCRA Waste ID Code: D001

MATERIAL SAFETY DATA SHEET

White Lithium Grease

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Aerosols, flammable
DOT Hazard Class: 2.1
DOT Hazard Label: FLAMMABLE GAS
UN/NA Number: UN1950

Additional Transport Information

This material may be reclassified according to 49 CFR 173.306.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Hydrotreated light distillate (petroleum)	64742-47-8	No	No	No	No
2. Solvent naphtha medium aliphatic	64742-88-7	No	No	No	No
3. Propane	74-98-6	No	No	No	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	No	No
5. Mineral oil	64742-65-0	No	No	No	No
6. Mineral oil, petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	No	No	No	No
7. Lithium 12-hydroxystearate	7620-77-1	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Hydrotreated light distillate (petroleum)	64742-47-8	No	No	Inventory	No
2. Solvent naphtha medium aliphatic	64742-88-7	No	No	Inventory	No
3. Propane	74-98-6	No	No	Inventory	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	Inventory	No
5. Mineral oil	64742-65-0	No	No	Inventory	No
6. Mineral oil, petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	No	No	Inventory	No
7. Lithium 12-hydroxystearate	7620-77-1	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)

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8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
- Yes No Chronic (delayed) Health Hazard
- Yes No Fire Hazard
- Yes No Sudden Release of Pressure Hazard
- Yes No Reactive Hazard

Regulatory Information

TSCA Inventory: This product and/or its components are listed on the Toxic Substance Control Act (TSCA) inventory.

SARA 313: This product does not contain any components in concentrations at or above de minimis levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements 313 of SARA.

CWA: This material may be classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

California Proposition 65: This product is not known to contain any chemical substances which are known to the State of California to cause cancer, birth defects, or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

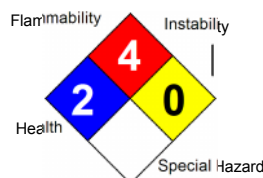
16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF HINO MOTOR SALES USA. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. HINO MOTOR SALES USA. ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.

MATERIAL SAFETY DATA SHEET

Silicone Spray



Printed: 10/28/2013
Revision: 10/25/2013
Supersedes Revision: 11/03/2009
Date Created: 11/21/2005

1. Product and Company Identification

Product Code: 730-1486-A
Product Name: Silicone Spray
Reference #: LAB 204 H-A
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
CAS Number: Mixture
Part Number: HN001234023
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Heptane	142-82-5	30.0 -40.0 %	500 ppm	400 ppm	No data.
2. Acetone	67-64-1	20.0 -30.0 %	1000 ppm	500 ppm	No data.
3. Propane	74-98-6	5.0 -20.0 %	No data.	No data.	No data.
4. Isobutane (2-Methylpropane)	75-28-5	5.0 -20.0 %	No data.	No data.	No data.
5. Polydimethylsiloxane	63148-62-9	6.5 -14.5 %	No data.	No data.	No data.

Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Heptane	MI7700000	No data.	No data.	500 ppm	No data.
2. Acetone	AL3150000	No data.	No data.	750 ppm	No data.
3. Propane	TX2275000	No data.	No data.	No data.	No data.
4. Isobutane (2-Methylpropane)	TZ4300000	No data.	No data.	No data.	No data.
5. Polydimethylsiloxane	VU6200000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

DANGER! Extremely Flammable Liquid and Vapor; vapor may cause flash fire or explosion! May be harmful or fatal if swallowed. Liquid component may be an aspiration hazard. May cause irritation or inflammation of the eyes, skin, mucous membranes, and respiratory tract. May be harmful if inhaled or absorbed through the skin! Overexposure may cause central nervous system (CNS) depression and/or other target organ effects!

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

EYE CONTACT: Animal test results on similar materials suggest that this product can cause minimal to mild eye irritation upon short-term exposure.

SKIN CONTACT: Animal test results on similar materials suggest that this product can cause mild to moderate skin irritation. Short-term contact symptoms include redness, itching, and burning of the skin. This material may also be absorbed through the skin and produce CNS depression effects (see inhalation). If the skin is damaged, absorption increases. Prolonged and/or repeated contact may cause moderate to severe dermatitis.

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INHALATION: Breathing high concentrations of vapor may cause respiratory irritation, euphoria, excitation or giddiness, headache, nausea, vomiting, abdominal pain, loss of appetite, fatigue, muscular weakness, staggering gait, and central nervous system (CNS) depression. CNS effects include dizziness, drowsiness, disorientation, vertigo, memory loss, visual disturbances, difficulty with breathing, convulsions, unconsciousness, paralysis, coma and even death, depending upon the exposure concentration and/or duration.

INGESTION: If swallowed this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Additional central nervous system (CNS) effects may occur prior to the onset of convulsions, coma and death.

Due to its light viscosity, there is a danger of aspiration into the lungs during vomiting. Aspiration can result in severe lung damage or death. Aspiration into the lungs can cause pulmonary edema and chemical pneumonia! Prolonged and/or repeated inhalation may increase the heart's susceptibility to arrhythmia (irregular beats)!

Progressive CNS depression, respiratory insufficiency, and ventricular fibrillation may also result in death.

Signs and Symptoms Of Exposure

EYE CONTACT: Stinging, watering, redness, and swelling.

SKIN CONTACT: Drying, swelling, scaling, blistering, cracking and severe tissue damage.

INHALATION: Breathing high concentrations of vapor may cause respiratory irritation, euphoria, excitation or giddiness, headache, nausea, vomiting, abdominal pain, loss of appetite, fatigue, muscular weakness, staggering gait, and central nervous system (CNS) depression.

INGESTION: Burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggering gait, drowsiness, loss of consciousness and delirium.

Medical Conditions Generally Aggravated By Exposure

Pre-existing central nervous system disease, neurological conditions, skin disorders, liver, or kidney function, or chronic respiratory diseases.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : Compressed Gas, Flammable Gas, Flammable Liquid/Solid

TARGET ORGANS & EFFECTS: Lungs, Kidney, Eyes, Skin, Liver, Central Nervous System, Mucous Membranes, Blood

4. First Aid Measures

Emergency and First Aid Procedures

EYE CONTACT: Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.

SKIN CONTACT: Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists.

INHALATION: Immediately remove the affected victim to fresh air. Administer artificial respiration if breathing is stopped. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.

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INGESTION: Do NOT induce vomiting or give anything by mouth. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Note to Physician

NOTES TO PHYSICIAN: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Vigorous anti-inflammatory/steroid treatment may be required at first evidence of upper airway or pulmonary edema. Administer 100 percent humidified supplemental oxygen with assisted ventilation, as required.

If ingested, this material presents a significant aspiration/chemical pneumonitis hazard. As a result induction of emesis is not recommended. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol. Also, treatment may involve careful gastric lavage if performed soon after ingestion or in patients who are comatose or at risk of convulsing. Protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. Obtain chest x-ray and liver function tests. Monitor for cardiac function, respiratory distress and arterial blood gases in severe exposure cases.

Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmia (irregular beating) in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). If used, monitor heart action closely. Consider use of other drugs with less arrhythmogenic potential.

5. Fire Fighting Measures

Flash Pt: < -150.00 F (-101.1 C) Method Used: Estimate
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.

Fire Fighting Instructions

Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from venting safety devices or discoloration of vessels, tanks or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities if liquid(s) enter sewers/waterways.

Flammable Properties and Hazards

EXTREMELY FLAMMABLE LIQUID and VAPOR! This material releases vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. May create vapor/air explosion hazard in confined spaces such as sewers. If container is not properly cooled, it can rupture in the heat of a fire.

This product consists of a liquid and gaseous component. The flashpoint of the liquid is < - 4 F (based on the flashpoint of acetone). The flashpoint of the gaseous propellant is < -150 F.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, oxides of incompletely combusted hydrocarbons.

Extinguishing Media

SMALL FIRE: Use dry chemicals, carbon dioxide (CO₂), foam, water fog, or inert gas (nitrogen). Do not extinguish all flame until source of gas has been shut off.

LARGE FIRE: Use foam, water fog or water spray. Water fog and spray are effective in cooling containers and adjacent structures but might cause frothing and/or may not achieve extinguishment. A water jet may be used to cool the vessel's external walls to prevent pressure build-up, autoignition, or explosion.

Unsuitable Extinguishing Media

Never use a water jet directly on the fire because it may spread the fire to a larger area.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Aerosols are a mixture of gaseous and liquid components. The gaseous component is not readily recoverable, and should be dispersed through ventilation upon release.

The following pertains to the liquid component of the aerosol:

Flammable Liquid and Vapor! Release causes an immediate fire or explosion hazard. Evacuate all non-essential personnel from immediate area and establish a "regulated zone" with site control and security. A vapor-suppressing foam may be used to reduce vapors. Eliminate all ignition sources. All equipment used when handling this material must be grounded. Stop the leak if it can be done without risk. Do not touch or walk through spilled material. Remove spillage immediately from hard, smooth walking areas. Prevent its entry into waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to appropriate waste containers. Use clean, non-sparking tools to collect absorbed material.

7. Handling and Storage

Precautions To Be Taken in Handling

Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Do not contact with oxidizable materials. Do not breathe vapor. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Prevent contact with food, chewing or smoking materials. Do not take internally.

Precautions To Be Taken in Storing

Store and transport in accordance with all applicable laws. Keep containers closed and store in a cool, dry, well-ventilated place, plainly labeled, and out of closed vehicles. Keep away from all ignition sources! This product should be stored in a separate safety cabinet. All electrical equipment in areas where this material is stored or handled should be installed in accordance with applicable requirements of the NFPA's national Electrical code (NEC)

Other Precautions

Do not cut, puncture, or incinerate containers. Do not weld or braze containers. Empty containers may contain flammable/explosive residues which can ignite with explosive force. Misuse of empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers can cause fire, explosion or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks or heat. All label warnings and precautions must be observed.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For unknown vapor concentrations use a positive-pressure-demand, self-contained breathing apparatus (SCBA). For known vapor concentrations above the occupational exposure guidelines use a NIOSH-approved organic vapor respirator. Respirator use should follow OSHA requirements (29CFR 1910.134) or equivalent standard.

Eye Protection

Safety glasses are recommended as a minimum protection.

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Protective Gloves

Use of gloves such as disposable PVC, neoprene, nitrile vinyl or PVC/NBR is recommended.

Other Protective Clothing

Avoid skin contact. The use of long-sleeves, apron, slicker suit, boots and additional facial protection may be needed depending on type of application involving the product. If general contact occurs, immediately remove soaked clothing and take a shower. Contaminated leather goods should be removed promptly and discarded.

Engineering Controls (Ventilation etc.)

If general ventilation is not sufficient, provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and/or mists below the pertinent exposure limits. All electrical equipment should comply with the NFPA NEC standards.

Work/Hygienic/Maintenance Practices

Before eating, drinking, smoking, use of toilet facilities, or leaving work, wash hands with plenty of mild soap and water.

Ensure that an emergency eye wash station and a safety shower are near work stations. Do NOT use gasoline, kerosene, other solvents, or harsh abrasive skin cleaners.

9. Physical and Chemical Properties

Physical States:	[X] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	< -150.00 F (-101.1 C) Method Used: Estimate
Specific Gravity (Water = 1):	0.71 - 0.77 at 25.0 C (77.0 F)
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	Slight at 25.0 C (77.0 F)
Percent Volatile:	> 80.0 % by weight.
VOC / Volume:	58.8000 WT%
Viscosity:	< 1 CST at 25.0 C (77.0 F)

Appearance and Odor

Clear colorless liquid with gaseous propellant with hydrocarbon odor.

Note: Except for VOC percentage, physical properties relate only to liquid constituent of the product.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

Keep away from extreme heat, strong acids, and strong oxidizing conditions. Acetone may form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol.

Incompatibility - Materials To Avoid

Strong acids, alkalies, and oxidizers such as liquid chlorine, hydrogen peroxide and oxygen. n-Heptane will dissolve some plastics.

Hazardous Decomposition Or Byproducts

Oxides of carbon and other asphyxiants.

MATERIAL SAFETY DATA SHEET

Silicone Spray

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Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

Will Not Occur.

11. Toxicological Information

Toxicological Information

Toxicological Exposure to Ingredients:

n-Heptane:

Gas LC50: Acute: 103,000 mg/m³ for 4 hours (rat)- convulsions;

Dermal LD50: Acute > 2,000 mg/kg rabbit

Intravenous LD50: Acute 222 mg/kg mouse

n-Heptane is a mucous membrane and respiratory tract irritant, but non-irritating to the eyes. It is irritating to the skin and readily absorbed by either inhalation or dermal exposure. Exposure may cause decreased red blood cell counts, liver and heart damage, and central nervous system depression. Repeated direct skin application can produce defatting dermatitis. n-heptane is metabolized in the liver to form alcohols and ketones, including neurotoxic 2,5 heptanedione which is detectable in small amounts in the urine of exposed humans.

Chronic Toxicological Effects

Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction.

Reports have associated repeated and prolonged occupational overexposure to solvents with irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Carcinogenicity/Other Information

This product does not contain any components at concentrations above .1% which are considered carcinogenic by OSHA, IARC, or NTP.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

Ecological effects testing has not been conducted on this material.

13. Disposal Considerations

Waste Disposal Method

Hazard characteristics and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

As packaged, this product meets the RCRA definition of an "ignitable".

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Aerosols, flammable

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Silicone Spray

DOT Hazard Class: 2.1
DOT Hazard Label: FLAMMABLE GAS
UN/NA Number: UN1950

Additional Transport Information

This product may be reclassified according to the exceptions contained in 49 CFR173.306.

Note: The information contained in Section 14 pertains to the material as shipped in non-bulk containers. If the material is shipped in bulk containers, other regulations may apply.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Heptane	142-82-5	No	No	No	No
2. Acetone	67-64-1	No	Yes 5000 LB	No	Yes
3. Propane	74-98-6	No	No	No	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	No	No
5. Polydimethylsiloxane	63148-62-9	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Heptane	142-82-5	No	No	Inventory, 4 Test, 8A PAIR	No
2. Acetone	67-64-1	No	No	Inventory, 4 Test	No
3. Propane	74-98-6	No	No	Inventory	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	Inventory	No
5. Polydimethylsiloxane	63148-62-9	No	No	Inventory, 8A, 8A PAIR	No

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- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
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- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

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12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

TSCA: This product and/or its components are listed on the Toxic Substances control Act (TSCA) inventory.

Prop 65: This material may contain the following chemical substances which are known to the State of California to cause cancer, birth defects or other reproductive harm; and therefore it may be subject to requirements of California Health and Safety Code Section 25249.5: Benzene 71-43-2 and Toluene 108-88-3

Regulatory Information Statement

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16. Other Information

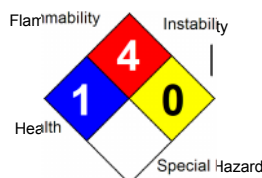
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MATERIAL SAFETY DATA SHEET

Rust Penetrant

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Printed: 10/28/2013
Revision: 10/25/2013
Supersedes Revision: 05/11/2007
Date Created: 04/02/2003

1. Product and Company Identification

Product Code: 730-1452-A
Product Name: Rust Penetrant
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234024
Revision Date: 10/25/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. OMS Naptha	64742-48-9	30.0 -40.0 %	No data.	No data.	300 PPM
2. Hydrotreated light distillate (petroleum)	64742-47-8	40.0 -50.0 %	No data.	No data.	No data.
3. Propane	74-98-6	5.0 -15.0 %	No data.	No data.	No data.
4. Isobutane (2-Methylpropane)	75-28-5	5.0 -15.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. OMS Naptha	NA	No data.	No data.	No data.	No data.
2. Hydrotreated light distillate (petroleum)	OA5504000	No data.	No data.	No data.	No data.
3. Propane	TX2275000	No data.	No data.	No data.	No data.
4. Isobutane (2-Methylpropane)	TZ4300000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Extremely flammable. Combustible liquid and vapor. Contents under pressure. A component is harmful, or fatal, if swallowed. Aspiration hazard. May cause severe skin irritation after prolonged or repeated contact. A component may cause allergic skin reaction. Causes eye irritation.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

EYE: Eye Irritant. Contact may cause stinging, watering, redness, and swelling.

SKIN: Skin Irritant. Contact may cause redness and burning of the skin. Prolonged or repeated contact may cause drying and cracking of the skin and severe skin damage. No harmful effects from skin absorption have been reported.

INHALATION: No information available. Studies by other exposure routes suggest a low degree of toxicity.

INGESTION: A component of this material is toxic. May be harmful, or fatal, if swallowed. Aspiration Hazard- This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs and Symptoms Of Exposure

Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, headaches, nausea, vomiting, diarrhea, signs of nervous system depression, abdominal pain, an allergic skin reaction through repeated contact, pneumonitis, blood disorders, and jaundice.

Medical Conditions Generally Aggravated By Exposure

Skin disorders, blood disorders and liver disorders.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant

PHYSICAL HAZARDS : Compressed Gas, Flammable Gas, Flammable Liquid/Solid

TARGET ORGANS & EFFECTS: Lungs, Eyes, Skin, Blood, Liver, Central Nervous System, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

EYES: Move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek medical attention. For direct contact, hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

SKIN: Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

INHALATION: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious, place on the left side with the head down. If possible, do not leave victim unattended. Seek medical attention.

Note to Physician

If an allergic reaction to this material develops, avoid further contact.

5. Fire Fighting Measures

Flash Pt: < -150.00 F (-101.1 C) Method Used: Estimate
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.

Fire Fighting Instructions

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. In addition, wear other appropriate protective equipment as conditions warrant. Isolate damage area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from danger area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Flammable Properties and Hazards

Contents under pressure, exposure to high temperatures (greater than 130 F) may result in the eruption of containers and release of highly flammable gaseous vapors. Released gasses may cause flash fire. Released liquid is combustible and may generate ignitable vapors at, or near, its flashpoint.

Flashpoint of compressed gas is < -150 F
 Flashpoint of liquid is 140 F

Hazardous Combustion Products

Oxides of carbon including carbon dioxide and carbon monoxide.

Extinguishing Media

Foam, CO₂, Dry chemical or halon is recommended. Use water spray to cool fire exposed surfaces and to protect personnel.

Halon may decompose into toxic material. Carbon dioxide can displace oxygen. Use caution when applying halon or carbon dioxide in confined spaces.

Unsuitable Extinguishing Media

Water may be ineffective for extinguishment, unless under favorable conditions by experienced fire fighters.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Keep all sources of ignition and hot metal surfaces away from spill/release. Use explosion proof equipment. Stay upwind and away from spill/release. Isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material. Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (800-424-8802).

7. Handling and Storage

Precautions To Be Taken in Handling

Use ventilation adequate to keep exposures below recommended exposure limits. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Do not taste or swallow. Vapor can be ignited by static discharge. The use of respiratory protection is advised when concentrations exceed any established exposure limits. Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.

Precautions To Be Taken in Storing

Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "NO Smoking or Open Flame." Keep away from any incompatible material. Protect container against physical damage. Indoor storage should meet OSHA standards and appropriate fire codes.

Other Precautions

Empty containers retain residue (liquid and/or vapor) and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

The use of respiratory protection is advised when concentrations are expected to exceed the established exposure limits. Depending on the airborne concentration, use a respirator with appropriate cartridges or supplied-air equipment.

Eye Protection

Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.

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Supercedes Revision: 05/11/2007

Protective Gloves

Impervious gloves.

Other Protective Clothing

Eye wash and quick drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn.

Engineering Controls (Ventilation etc.)

If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used.

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States:	[X] Gas	[X] Liquid	[] Solid
Melting Point:	No data.		
Boiling Point:	No data.		
Autoignition Pt:	No data.		
Flash Pt:	< -150.00 F (-101.1 C) Method Used: Estimate		
Specific Gravity (Water = 1):	0.79 - 0.81 at 25.0 C (77.0 F)		
Vapor Pressure (vs. Air or mm Hg):	No data.		
Vapor Density (vs. Air = 1):	No data.		
Evaporation Rate:	No data.		
Solubility in Water:	No data.		
Percent Volatile:	No data.		
VOC / Volume:	48.8000 WT%		

Appearance and Odor

Aerosol mixture of liquid and compressed gas. Liquid is thin, light amber colored liquid; characteristic vanilla odor.

Other than VOC information, all other physical property data is based solely on the liquid component of the mixture.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

High temperatures, sparks and open flame.

Incompatibility - Materials To Avoid

Avoid contact with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Combustion can yield major amounts of oxides of carbon and minor amounts of oxides of sulfur and nitrogen.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

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11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity:

NTP? No

IARC Monographs? No

OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose of in accordance with all Federal, State, Provincial and local laws and regulations. As packaged this product exhibits the characteristic of ignitability.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Aerosols, flammable**DOT Hazard Class:** 2.1**DOT Hazard Label:** FLAMMABLE GAS**UN/NA Number:** UN1950

Additional Transport Information

As packaged, this material may be eligible to be reclassified according to 49 CFR 173.306.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. OMS Naptha	64742-48-9	No	No	No	No
2. Hydrotreated light distillate (petroleum)	64742-47-8	No	No	No	No
3. Propane	74-98-6	No	No	No	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. OMS Naptha	64742-48-9	No	No	Inventory	No
2. Hydrotreated light distillate (petroleum)	64742-47-8	No	No	Inventory	No
3. Propane	74-98-6	No	No	Inventory	No
4. Isobutane (2-Methylpropane)	75-28-5	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

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Supercedes Revision: 05/11/2007

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.
5A(2): Chemical Subject to Significant New Rules (SNURS)
6A: Commercial Chemical Control Rules
8A: Toxic Substances Subject To Information Rules on Production
8A CAIR: Comprehensive Assessment Information Rules - (CAIR)
8A PAIR: Preliminary Assessment Information Rules - (PAIR)
8C: Records of Allegations of Significant Adverse Reactions
8D: Health and Safety Data Reporting Rules
8D TERM: Health and Safety Data Reporting Rule Terminations
12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

This material contains one or more chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

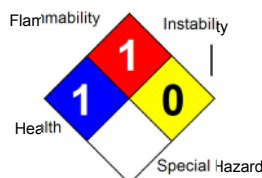
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MATERIAL SAFETY DATA SHEET

Cooling System Flush

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Printed: 10/28/2013

Revision: 10/17/2013

Date Created: 10/17/2013

1. Product and Company Identification

Product Code: 805-116473
Product Name: Cooling System Flush
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234025
Revision Date: 10/17/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Ethylenediamine tetraacetic acid, tetrasodium salt	64-02-8	5.0 -10.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethylenediamine tetraacetic acid, tetrasodium salt	AH5075000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Causes eye irritation. May cause skin and respiratory tract irritation. May be harmful if swallowed.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Eye contact: Can cause severe eye irritation. Can injure eye tissue.

Skin contact: Can cause skin irritation.

Ingestion: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation: It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits.

Recommended Exposure Limits

Contains no substances with occupational exposure limit values.

Signs and Symptoms Of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Cough, Difficulty in breathing, lung edema (fluid buildup in the lung tissue), lung damage, damage to the mouth, throat, and/or airways, shock

Eye contact: Stinging, tearing, redness, and swelling of eyes.

Skin contact: Redness and burning of skin, and other skin damage.

Medical Conditions Generally Aggravated By Exposure

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:
Skin, lung (for example, asthma-like conditions)

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant
PHYSICAL HAZARDS : No Physical Hazards
TARGET ORGANS & EFFECTS: Eyes, Skin, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

In Case of Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

In Case of Skin Contact

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

In Case of Eye Contact

If symptoms develop, immediately move individual away from exposure and into fresh air.
Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

In Case of Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

5. Fire Fighting Measures

Flash Pt: > 250.00 F (121.1 C)
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.

Fire Fighting Instructions

Precautions for fire-fighting
Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

Flammable Properties and Hazards

No unusual hazards.

Hazardous Combustion Products

Ammonia, toxic fumes, nitrogen oxides (NOx), carbon dioxide and carbon monoxide

Extinguishing Media

Dry chemical, Carbon dioxide (CO2), Water spray

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Protective Precautions, Protective Equipment and Emergency Procedures

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental Precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Comply with all applicable federal, state, and local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Precautions To Be Taken in Storing

Store in a cool, dry, ventilated area.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Eye Protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Maintain eye wash station near work area.

Protective Gloves

Wear resistant gloves (consult your safety equipment supplier). Discard gloves that show tears, pinholes, or signs of wear.

Other Protective Clothing

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Engineering Controls (Ventilation etc.)

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Work/Hygienic/Maintenance Practices

No data available.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	212.00 F (100.0 C)
Autoignition Pt:	No data.
Flash Pt:	> 250.00 F (121.1 C)
Specific Gravity (Water = 1):	1.045 at 20.0 C (68.0 F)
Vapor Pressure (vs. Air or mm Hg):	23.333 hPa at 68.0 F (20.0 C)
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
pH:	~ 9.0
Appearance and Odor	No data available.

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability	High heat.
Incompatibility - Materials To Avoid	Oxidizing agents, Strong bases, strong mineral acids
Hazardous Decomposition Or Byproducts	Ammonia, nitrogen oxides (NOx), toxic fumes, carbon dioxide and carbon monoxide
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization	None known.

11. Toxicological Information

Toxicological Information

Acute oral toxicity ETHYLENEDIAMINETETRAACETIC ACID, TETRASODIUM SALT: LD 50 Rat: 630-1,260 mg/kg

Acute inhalation toxicity ETHYLENEDIAMINETETRAACETIC ACID, TETRASODIUM SALT: no data available

Acute dermal toxicity ETHYLENEDIAMINETETRAACETIC ACID, TETRASODIUM SALT: LD 50 Rabbit: > 5,000 mg/kg

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

Ethylenediamine tetraacetic acid (EDTA) and its sodium salts have been reported to cause birth defects in laboratory animals. Birth defects occurred only at exposure levels that harmed the pregnant animal. These effects are likely associated with zinc deficiency due to the removal of zinc from the body by EDTA.

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Cooling System Flush

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

Toxicity to fish ETHYLENEDIAMINETETRAACETIC ACID, TETRASODIUM SALT: 96 h LC 50 Bluegill (Lepomis macrochirus): 472.00 -500.00 mg/l Method: Static; Mortality
Toxicity to daphnia and other aquatic invertebrates ETHYLENEDIAMINETETRAACETIC ACID, TETRASODIUM SALT: 24 h EC 50 Water flea (Daphnia magna): 570.00 -640.00 mg/l Mortality

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with all Federal, State/Provincial and local laws and regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not regulated

Additional Transport Information

No data available.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethylenediamine tetraacetic acid, tetrasodium salt	64-02-8	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethylenediamine tetraacetic acid, tetrasodium salt	64-02-8	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules

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Cooling System Flush

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8D TERM: Health and Safety Data Reporting Rule Terminations

12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

Yes No Acute (immediate) Health Hazard

Yes No Chronic (delayed) Health Hazard

Yes No Fire Hazard

Yes No Sudden Release of Pressure Hazard

Yes No Reactive Hazard

Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: Proposition 65 are NOT required for this product based on the results of a risk assessment.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

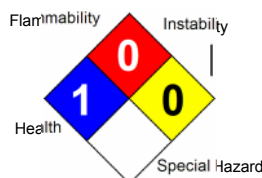
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MATERIAL SAFETY DATA SHEET

Cooling System Iron Cleaner

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Date Created: 10/18/2013

1. Product and Company Identification

Product Code: 805-114658
Product Name: Cooling System Iron Cleaner
Manufacturer/Supplier/Distributor Information
Company Name: Hino Motor Sales USA, Inc.
41180 Bridge St.
Novi, MI 48375
Phone Number: (248)699-9300
Fax Number: (248)699-9310
Part Number: HN001234026
Revision Date: 10/18/2013

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Disodium dihydrogen (1-hydroxyethylidene)bisphosphonate	7414-83-7	7.0 -13.0 %	No data.	No data.	No data.
Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Disodium dihydrogen (1-hydroxyethylidene)bisphosphonate	SZ8562240	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Skin: Primary route of exposure; May cause slight irritation to the skin.
Eyes: May cause moderate irritation to the eyes.
Inhalation: Mists/aerosols may cause irritation to upper respiratory tract.
Ingestion: May cause gastrointestinal irritation.

Signs and Symptoms Of Exposure

Eyes: Redness, tearing, irritation or other signs of discomfort.
Skin: Redness, itching, irritation or other signs of discomfort.
Inhalation: Irritation or other discomfort.
Ingestion: Irritation or other discomfort.

Medical Conditions Generally Aggravated By Exposure

Not known.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant
PHYSICAL HAZARDS : No Physical Hazards
TARGET ORGANS & EFFECTS: Eyes, Skin

4. First Aid Measures

Emergency and First Aid Procedures

In Case of Inhalation

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

In Case of Skin Contact

Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

In Case of Eye Contact

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

In Case of Ingestion

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

Note to Physician

No special instructions

5. Fire Fighting Measures

Flash Pt: > 200.00 F (93.3 C) Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

As with all fires involving chemicals, responders should wear full bunker gear including a self-contained breathing apparatus. Cool containers to keep them from bursting, and remove from high heat areas if possible.

Flammable Properties and Hazards

No unusual hazards, fight fire as appropriate for surrounding chemicals and conditions.

Hazardous Combustion Products

Oxides of carbon, nitrogen and phosphorus; hydrogen chloride

Extinguishing Media

Foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

Protective Precautions, Protective Equipment and Emergency Procedures

Ventilate area. Use specified protective equipment.

7. Handling and Storage

Precautions To Be Taken in Handling

Avoid contact with eyes, skin and clothing. Do not inhale mists, vapors or fumes. Do not ingest. Wash after use.

Precautions To Be Taken in Storing

Store below 100F (38C). Keep containers closed when not in use. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

Air-purifying respirator if appropriate, include any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

Eye Protection

Splash proof chemical goggles.

Protective Gloves

Rubber, viton or neoprene gloves - Wash off after each use. Replace as necessary.

Other Protective Clothing

No data available.

Engineering Controls (Ventilation etc.)

Provide adequate ventilation. General ventilation should be adequate, however if application results in the generation of spray, mists, fumes or vapors, or if application is performed in a poorly ventilated area such as a confined space, additional mechanical ventilation may be required.

Work/Hygienic/Maintenance Practices

Following good manufacturing practices including washing following the handling of this product and before eating, drinking or smoking.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Freezing Point:	18.00 F (-7.8 C)
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	> 200.00 F (93.3 C) Method Used: Pensky-Marten Closed Cup
Specific Gravity (Water = 1):	1.105 at 70.0 F (21.1 C)
Vapor Pressure (vs. Air or mm Hg):	~ 18 MMHG
Vapor Density (vs. Air = 1):	< 1.00 - air=1
Evaporation Rate:	< 1.00 (Ether=1)
Solubility in Water:	100 %
Percent Volatile:	No data.
VOC / Volume:	0.0000 WT%
Viscosity:	13 CPS at 70.0 F (21.1 C)
pH:	~ 6.00

Appearance and Odor

Colorless to amber liquid with a mild odor

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Reactivity

Contact with water reactive compounds may cause fire or explosion.

Conditions To Avoid - Instability

Stable under normal storage conditions.

Incompatibility - Materials To Avoid

May react with strong oxidizers.

Hazardous Decomposition Or Byproducts

Oxides of carbon, nitrogen and phosphorus; hydrogen chloride.

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Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Toxicological Information

No data available.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with all Federal, State/Provincial and local laws and regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not Regulated

Additional Transport Information

No data available.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Disodium dihydrogen (1-hydroxyethylidene)bisphosphonate	7414-83-7	No	No	No	No

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Disodium dihydrogen (1-hydroxyethylidene)bisphosphonate	7414-83-7	No	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.

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5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes No Acute (immediate) Health Hazard
 Yes No Chronic (delayed) Health Hazard
 Yes No Fire Hazard
 Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

Regulatory Information

TSCA: All ingredients in this product are listed on the TSCA Inventory or are otherwise exempt.

CA Prop 65: This product is known to contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Regulatory Information Statement

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF HINO MOTOR SALES USA. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. HINO MOTOR SALES USA. ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.


CCI MANUFACTURING IL CORPORATION

 15550 Canal Bank Rd., P.O. Box 339, Lemont, IL 60439 U.S.A.
 TEL +1-630-739-0606 FAX +1-630-739-1116

Material Safety Data Sheet

 MSDS No. 20280
 Date : 1/9/2013

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 HINO LLC-EX SUPER COOLANT

HINO LLC-EX SUPER COOLANT

 Emergency Number : General Information :
 Chemtrec : 800/424-9300 CCI : 630/739-0606

SECTION I - IDENTIFICATION

 Product : HINO LLC-EX SUPER COOLANT

 Synonyms : None
 Chemical Family : Ethylene Glycol solution of salts
 CAS No. : Mixture - no single CAS number applicable

SECTION II - INGREDIENTS

<u>Components</u>	<u>CAS No.</u>	<u>Nominal %</u>	<u>Hazard Code</u>	<u>PEL/TLV</u>	<u>Hazard</u>
Ethylene Glycol	107-21-1	45 - 50 %	A	Ceiling : 100mg/m [Aerosol only]	Respiratory irritant Ingestion may produce liver, brain and kidney damage.
Hydrated inorganic acid, organic acid salts	pro-prietary	Less than 5%	N/A	None	None noted.
Water	7732-18-5	45 - 50 %	N/A	None	None noted

SECTION III - HEALTH INFORMATION

- Inhalation : Breathing excessive levels of the vapor or mist can irritate the respiratory tract. Excessive vapor concentrations of the major component (ethylene glycol), as might be generated during heating of this material, have occasionally been reported to cause adverse effects on the blood - forming system and the nervous system.
- Ingestion : The acute oral toxicities of the components of this mixture are as follows :
Ethylene Glycol
The lowest dose reported to produce death in humans was estimated to be 710 mg/kg body weight; for a person weighting 150 pounds, this would be equivalent to drinking about one and one-half (1.5) fluid ounces of pure ethylene glycol in a short period of time.
Acute oral LD50's = 4,700 mg/kg (rat)
5,500 mg/kg (mouse)
- Eye Contact : Based on the pH and irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation or inflammation of the eyes.
- Skin contact : The acute dermal LD50 of the major component(ethylene glycol) of this product is 11.89g/kg(rabbits). Based on the pH and the irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation of the skin.
- Carcinogenicity Listing IARC : () OSHA : () NTP : () Not listed : (X)

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

- PEL(OSHA Permissible Exposure Limit) : None established for mixture, See Section II.
TLV(ACGIH Threshold Limit Value) : None established for mixture, See Section II.

SECTION V - EMERGENCY FIRST AID PROCEDURE

For Overdose Exposure By :

- Swallowing : If victim is conscious and able to swallow, quickly have victim drink water or milk to dilute. Do NOT give sodium bicarbonate, fruit juices or vinegar. NEVER give anything by mouth if victim is unconscious or having convulsions. Induce vomiting only if advised by physician or Poison Control Center. CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.
- Skin Contact : Immediately flush skin with plenty of water while removing contaminated clothing.
- Eye Contact : Immediately flush eyes with plenty of cool water for at least 15 minutes. Do NOT permit victim to rub eyes. GET MEDICAL ATTENTION IMMEDIATELY.
- Inhalation : Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION VI - PHYSICAL DATA

Boiling Point : 108 °C
Melting Point : (Freezing Point) less than 0°C
Vapor Pressure : Estimated 0.05 mmHg at 20°C
Density (20°C) : 1.08 g/cm³
Vapor Density (Air = 1) : Not determined
pH (Original) : 7.6
Solubility in Water : Infinite miscibility
Appearance and Color : Clear, slightly viscous, pink dyed liquid

SECTION VII - FIRE AND EXPLOSION HAZARDS

Flash Point : None
Auto-Ignition Temperature : Not determined (400°C for ethylene glycol)
Flammable Limits in Air, %by Vol.
 Lower : Not determined (3.2% for ethylene glycol)
 Upper : Not determined (15.3% for ethylene glycol)
NFPA Rating : Health (1) Fire (0) Reactivity (0)
Fire Fighting Procedures : (Note : Individuals should perform only those firefighting procedures for which they have been trained.) Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a spill or leak has not ignited, use water spray to disperse the vapors. Water spray may be used to flush spills away from fire and diluted spills to noncombustible proportions(see warning on water spray on hot glycol below.)
Unusual Fire & Explosion Hazards : Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full face piece when, there is a possibility of exposure to smoke, fumes or hazardous decomposition products. Water spray may cause foaming of hot glycol so indirect application of water spray or use of other extinguishing media should be used on hot glycol.

SECTION VIII - REACTIVITY

Stability : Generally stable
Hazardous Polymerization : Not likely to occur
Conditions and Materials to Avoid : Avoid concentrated strong acids, oxidizing agents and bases. Do not expose to open flame.
Hazardous Decomposition Products : If pyrolyzed, thermal decomposition products of residue may include C, CO, CO₂, H₂O, NH₃, organic vapors and nitrogen-containing.

SECTION IX - EMPLOYEE PROTECTION

- Control Measures : Handle in the presence of adequate ventilation. Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure criteria (see Section II and IV), including enclosures and local exhaust ventilation.
- Respiratory Protection : Where exposure is likely to exceed acceptable criteria (see Section II and IV) and engineering controls are not feasible, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air and in accordance with OSHA (29 CFR 1910.134)
- Protective Clothing : Wear gloves and protective clothing which are impervious to the product for the duration of exposure if there is potential for skin contact.
- Eye Protection : Wear safety glasses meeting the specifications of ANSI Standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specification of ANSI Standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

SECTION X - ENVIRONMENTAL PROTECTION

- Environmental Precautions : Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill release response plan should be developed and implemented.
- Spill or Leak Procedures : Wear appropriate respiratory equipment and protective equipment as described in Section IX. Contain spilled material. Transfer to secure containers. Where necessary, collect using absorbent media. In the event of an uncontrolled release is reportable under the applicable laws and regulations.
- Waste Disposal : All recovered material should be packaged, labeled, transported, and disposed of or reclaimed in conformance with good engineering practices. Avoid land filling of liquids. Reclaim where possible.

SECTION XI - REGULATORY CONTROLS

- Department of Transportation :
- | | |
|---------------------------------|---|
| DOT Classification (Bulk) : | Class 9 miscellaneous |
| DOT Proper Shipping Name : | Environmentally Hazardous Substance Liquid n.o.s. (ethylene glycol), 9, UN3082, III |
| DOT Classification (Non-bulk) : | Not regulated |
| IATA (Non-bulk) : | Not regulated |
| IMDG Code (Non-bulk) : | Not regulated |
- Other Regulatory Requirements :
- Toxic Substance Control Act :
This product is a mixture : therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.
- SARA Hazard Categories (as defined in Section 311/312)

SECTION XI - REGULATORY CONTROLS(CONTINUED)

Health Immediate (Acute) and Delayed (Chronic)
Physical None
The product contains greater than 40% ethylene glycol (CAS# 107-21-1) which is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

California Proposition 65

This product does not contain any substances currently listed under California Proposition 65.

Bitterant Agent

This product contains bitterant agent.

SECTION XII - PRECAUTIONS : HANDLING, STORAGE AND USAGE

- To prevent possible storage container rupture, do not permit to freeze; See Section VI.
- Do not expose children and pets to this material.
- Keep container closed.
- Keep away from open flames.
- After handling product, wash thoroughly with soap and water before drinking, eating, or smoking.
- Container hazardous when emptied. Since emptied containers retain product residues, all hazardous precautions described on this MSDS must be observed.

SECTION XIII - CONTACT INFORMATION

The information presented herein is believed to be factual as it has been derived from the works and opinions of people believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which CCI Manufacturing IL Corporation bears legal responsibility. The user should review any recommendation in the specific context of intended use to determine whether they are appropriate.

Prepared By CCI MANUFACTURING IL CORPORATION

For further information contact :

Technical Manager
CCI MANUFACTURING IL CORPORATION
15550 Canal Bank Rd
Lemont, IL 60439
(630)-739-0606