

MATERIAL SAFETY DATA SHEET

1. High Temperature Grease (MK-WS2-HT)

1.1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1.1. **Product Name:** High Temperature Grease
- 1.1.2. **Product Code:** MK-WS2-HT
- 1.1.3. **Intended Use:** Lubricating Grease
- 1.1.4. **Chemical Family:** Petroleum Hydrocarbon
- 1.1.5. **Responsible Party:**
 - M K Impex Canada,
 - 6382 Lisgar Drive,
 - Mississauga,
 - Ontario,
 - L5N 6X1,
 - Canada
 - Fax: 905-824-1259,
 - Web: www.lowerfriction.com
 - Customer Service Telephone: 416-509-4462
- 1.1.6. The intended use of this product is indicated above. If any additional use is known, please contact us at the listed number for Technical Information

1.2. EMERGENCY OVERVIEW

- 1.2.1. **Health Hazards/Precautionary Measures:** Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
- 1.2.2. **Physical Hazards/Precautionary Measures:** Keep away from all sources of ignition.
- 1.2.3. **Appearance:** Black
- 1.2.4. **Physical Form:** Semi-solid
- 1.2.5. **Odour:** Characteristic petroleum NFPA 704
- 1.2.6. **Hazard Class:**
 - 1.2.6.1. **HMIS Hazard Class:** Health: 1(Slight)
 - 1.2.6.2. **Health:** 1(Slight)
 - 1.2.6.3. **Flammability:** 1(Slight)
 - 1.2.6.4. **Instability:** 0(Least)
 - 1.2.6.5. **Physical Hazards:** 0(Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

- 2.1. Mixture

3. HAZARDS IDENTIFICATION

3.1. Potential Health Effects:

- 3.1.1. **Eye:** Contact may cause mild eye irritation including stinging, watering, and redness.
- 3.1.2. **Skin:** Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

- 3.1.3. **Inhalation (Breathing):** No data available. However, inhalation is not an expected route of exposure.
- 3.1.4. **Ingestion (Swallowing):** Low degree of toxicity by ingestion.
- 3.1.5. **Signs and symptoms:** Effects of overexposure may include irritation of the nose and throat, irritation of the respiratory tract, irritation of the digestive tract, nausea, and diarrhoea.
- 3.1.6. **Cancer:** Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual compounds, if any.
- 3.1.7. **Target Organs:** No data available for this material.
- 3.1.8. **Developmental:** No data available for this material.
- 3.1.9. **Pre-Existing Medical Conditions:** Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

- 4.1. **Eye:** If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.
- 4.2. **Skin:** Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.
- 4.3. **Ingestion (Swallowing):** First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

5. FIRE-FIGHTING MEASURES

5.1. Flammable Properties:

- 5.1.1. **Flash Point:** 662° F /350° C
- 5.1.2. **OSHA Flammability Class:** Not applicable
- 5.1.3. **NFPA Flammability Class:** No data
- 5.1.4. **LEL%:** No data
- 5.1.5. **UEL%:** No data
- 5.1.6. **Auto ignition Temperature:** No data
- 5.1.7. **Unusual Fire & Explosion Hazards:** This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.
- 5.1.8. **Extinguishing Media:** Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
- 5.1.9. **Fire fighting instructions:** For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8) Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapours and to protect personnel. 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.

6. ACCIDENTAL RELEASE MEASURES

- 6.1. This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release, isolate immediate hazard 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 (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material. Notify fire authorities and appropriate federal, state, and local agencies. Immediate clean-up of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zones, or adjoining shorelines, notify the National Response Centre.

7. HANDLING AND STORAGE

7.1. Handling:

- 7.1.1. 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 appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 2 and 8).
- 7.1.2. Do not wear contaminated clothing or shoes. Use good personal hygiene practices.
- 7.1.3. "Empty" containers retain residue 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 re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
- 7.1.4. High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.
- 7.1.5. Before working on or in tanks which contain or have contained this material, refer to OSHA regulation, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

7.2. Storage:

- 7.2.1. Keep container(s) tightly closed. Store only in approved containers. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113°F may lead to thermal decomposition, resulting in the generation of hydrogen sulphide and other sulphur containing gases. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. **Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required.

8.2. Personal Protective Equipment (PPE):

- 8.2.1. **Respiratory:** A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2). Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is

potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

8.2.2. **Skin:** The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufactures literature for information on permeability).

8.2.3. **Eye/Face:** Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

9.2. **Appearance:** Black

9.3. **Physical Form:** Semi-solid

9.4. **Odour:** Characteristic petroleum

9.5. **Odour Threshold:** No data

9.6. **PH:** Not applicable

9.7. **Vapour Pressure (mm Hg):** <0.01

9.8. **Vapour Density (air=1):** >5

9.9. **Boiling Point:** No data

9.10. **Solubility in Water:** Insoluble

9.11. **Partition Coefficient (n-octanol/water):** No data

9.12. **Specific Gravity:** 0.92

9.13. **Bulk Density:** 7.82

9.14. **Bulk Density Units:** lbs/gal

9.15. **Per cent Volatile:** Negligible

9.16. **Evaporation Rate (nBuAc=1):** <0.01

9.17. **Flash Point:** 662°F/350°C

9.18. **Test Method:** (COC)

9.19. **LEL%:** No data

9.20. **UEL%:** No data

9.21. **Auto ignition Temperature:** No data

10. STABILITY AND REACTIVITY

10.1. **Stability:** Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.2. **Conditions to Avoid:** Extended exposure to high temperatures can cause decomposition.

10.3. **Materials to Avoid (Incompatible Materials):** Avoid contact with acids, strong oxidizing agents.

10.4. **Hazardous Decomposition Products:** Combustion can yield carbon, nitrogen, sulphur, phosphorus, and zinc oxides. Hydrogen sulphide and alkyl mercaptans may also be released. Thermal decomposition may produce hydrogen sulphide and other sulphur-containing gases at temperatures greater than 113°F.

10.5. **Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

11.1. Chronic Data:

11.1.1. **Lubricant Base Oil (Petroleum)-CAS:** VARIOUS

- 11.1.2. **Carcinogenicity:** The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydro treating, and de-waxing to remove aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria or less than 3% PAH's and therefore none are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

- 12.1. Not evaluated at this time.

13. DISPOSAL CONSIDERATIONS

- 13.1. This material, if discarded as produced, is not a RCRA "listed" hazardous waste. However, it should be fully characterized for toxicity prior to disposal (40 CFR 261). Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.
- 13.2. Container contents should be completely used and containers should be emptied prior to discard. Container residue could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORTATION INFORMATION

- 14.1. **DOT Proper shipping Name:** Not regulated
- 14.2. **IMDG Shipping Description:** Not regulated
- 14.3. **ICAO/IATA Shipping Description:** Not regulated

15. REGULATORY INFORMATION

15.1. U.S. Regulation:

- 15.1.1. EPA SARA 311/312 (Title III Hazard Categories)
- 15.1.2. **Acute Health:** No
- 15.1.3. **Chronic Health:** No
- 15.1.4. **Fire Hazard:** No
- 15.1.5. **Pressure Hazard:** No
- 15.1.6. **Reactive Hazard:** No

15.2. International Regulations:

15.3. Canadian Regulations:

- 15.3.1. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
- 15.3.2. **Domestic Substances List:** Listed
- 15.3.3. **WHIMIS Classification:** Not regulated

16. OTHER INFORMATION

16.1. Issue Date: 28-Aug-2008

16.2. Disclaimer of Expressed and implied Warranties:

16.2.1. The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared.

16.2.2. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.

16.2.3. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to follow recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license. MKIC HT Grease MSDS

16.3. 4 Lube Limited

16.3.1. 4 Lube Limited is the Australasian Distributor, Please contact 4 Lube Limited via their website at www.4lube.co.nz or email them at sales@4lube.co.nz.