

Safety Data Sheet

Komatsu Grease G2-LI**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING**

Name Komatsu Grease G2-LI
Issued Date 16-06-2009
Product Type/Use Automotive and industrial grease.
Part numbers KG-EPLI-400, KG-EPLI-180KG

Company

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2. HAZARDS IDENTIFICATION

EC Classification	Not classified as Dangerous under EC criteria.
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Health Hazards

Not expected to be a health hazard when used under normal conditions. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. High-pressure injection under the skin may cause serious damage including local necrosis. Used grease may contain harmful impurities.

Signs and Symptoms

Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection. Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

Safety Hazards

Not classified as flammable but will burn.

Environmental Hazards

Not classified as dangerous for the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Preparation description**

A lubricating grease consisting of highly-refined mineral oil and additives.

Additional Information

The highly refined mineral oil contains <3% (w/w) DMSOextract, according to IP346.

4. FIRST AID MEASURES**General Information**

Not expected to be a health hazard when used under normal conditions.

Inhalation

No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

Skin Contact

Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of

product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds.

Eye Contact

Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion

In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Advice to Physician

Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.

Suitable Extinguishing Media

Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media

Do not use water in a jet.

Protective Equipment for Firefighters

Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures

Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Clean Up Methods

Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.

7. HANDLING AND STORAGE**General Precautions**

Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling

Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage

Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50°C / 32 - 122°F

Recommended Materials

For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials

PVC.

Additional Information

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	OEL (BE)	TWA [Mist.]		5 mg/m3	
	OEL (BE)	STEL [Mist.]		10 mg/m3	

Additional Information

Due to the product's semi-solid consistency, generation of mists and dusts is unlikely to occur.

Exposure Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection

No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN141.

Hand Protection

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection

Wear safety glasses or full face shield if splashes are likely to occur. Approved to EU Standard EN166.

Protective Clothing

Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Environmental Exposure Controls

Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown. Semi-solid at ambient temperature.
Odour	Slight hydrocarbon.
pH	Not applicable
Initial Boiling Point and Boiling Range	Data not available.
Dropping Point	> 180 °C / > 356 °F
Flash Point	Typical > 180 °C / > 356 °F
Upper / lower Flammability or Explosion limits:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-Ignition Temperature	> 320 °C / 608 °F
Vapour pressure	< 0,5 Pa at 20 °C / 68 °F (estimated value(s))
Density	Typical 900 kg/m ³ at 15 °C / 59 °F
Water solubility	Negligible.
n-octanol/water partition coefficient (log Pow)	> 6 (based on information on similar products)
Kinematic Viscosity	Not applicable.
Vapour Density (air=1)	> 1 (estimated value(s))
Evaporation rate (nBuAc=1)	Data not available

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to Avoid

Extremes of temperature and direct sunlight.

Materials to Avoid

Strong oxidising agents.

Hazardous Decomposition Products

Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment

Information given is based on data on the components and the toxicology of similar products.

Acute Oral Toxicity

Expected to be of low toxicity: LD50 > 5000 mg/kg, Rat

Acute Dermal Toxicity

Expected to be of low toxicity: LD50 > 5000 mg/kg, Rabbit

Acute Inhalation Toxicity

Not considered to be an inhalation hazard under normal conditions of use.

Skin Irritation

Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Eye Irritation

Expected to be slightly irritating.

Respiratory Irritation

Inhalation of vapours or mists may cause irritation.

Sensitisation

Not expected to be a skin sensitiser.

Repeated Dose Toxicity

Not expected to be a hazard.

Mutagenicity

Not considered a mutagenic hazard.

Carcinogenicity

Product contains mineral oils of types shown to be noncarcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.

Reproductive and Developmental Toxicity

Not expected to be a hazard.

Additional Information

Used grease may contain harmful impurities that have accumulated during use. The concentration of such harmful impurities will depend on use and they may present risks to health and the environment on disposal. ALL used grease should be handled with caution and skin contact avoided as far as possible. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity

Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility

Semi-solid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.

Persistence/degradability

Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation

Contains components with the potential to bioaccumulate.

Other Adverse Effects

Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS**Material Disposal**

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal

methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.

Container Disposal

Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
EU Waste Disposal Code (EWC): 12 01 12 spent waxes and fats. Classification of waste is always the responsibility of the end user.

14. TRANSPORT INFORMATION**ADR**

This material is not classified as dangerous under ADR regulations.

RID

This material is not classified as dangerous under RID regulations.

ADNR

This material is not classified as dangerous under ADNR regulations.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Classification	Not classified as dangerous under EC criteria.
EC Symbols	No Hazard Symbol required.
EC Risk Phrases	Not classified.
EC Safety Phrases	Not classified.
EINECS	All components listed or polymer exempt.
TSCA (USA)	All components listed.

16. OTHER INFORMATION**MSDS Regulation**

Regulation 1907/2006/EC

Restrictions

This product must not be used in applications other than recommended without first seeking the advice of the Komatsu technical department.

List of R Phrases in Section 3

Not classified.

Disclaimer

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute a guarantee for any specific property of the product.

... End Of SDS ...