

# MATERIAL SAFETY DATA SHEET

## HARMONIC GREASE HC-1A

### 1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY/ UNDERTAKING

Identification of substance/preparation

Grease

HARMONIC GREASE HC-1A

Application

Industrial Lubricating Grease

Company Identification

Harmonic Drive Systems Inc

1856-1 Hotakamaki, Azumino-shi, Nagano 399-8205 Japan

Emergency Telephone Number:

Signature of Preparer(Optional)

Tel:+81-(0)263-6800 FAX:+81-(0)263-6901

### 2. COMPOSITION/ INFORMATION ON INGREDIENTS

INGREDIENTS	CAS No.	CONTENT mass%	REMARKS
MINERAL OIL	64741-88-4	80	OSHA PEL 5mg/m <sup>3</sup> (TWA)
	64742-54-7		ACGIH TLV 5mg/m <sup>3</sup> (TWA)
	64742-65-0		10mg/m <sup>3</sup> (STEL)
SOAP			
Lithium Soap	7620-77-1	10	
ADDITIVE	N/A	10	

### 3. HAZARDS IDENTIFICATION

Emergency overview :

Potential Health effects

Eye : Not expected to cause prolonged or significant eye irritation.

Skin: Contact the skin is not expected to cause prolonged or significant irritation.

Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion : Not expected to be harmful if swallowed.

Inhalation : Contains a petroleum-based mineral oil . May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels the recommended mineral oil mist exposure limit.

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#### 4. FIRST AID MEASURES

##### Eyes

In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

##### Skin

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

##### 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.

##### Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms appear.

##### Notes to physician

In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

#### 5. FIRE FIGHTING MEASURES

##### Extinguishing Media Suitable

Use foam or all-purpose dry chemicals to extinguish. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

##### Not Suitable

Do not use water jet.

##### Hazardous decomposition products

These products are carbon oxides (CO, CO<sub>2</sub>), phosphates. Some metallic oxides.

##### Unusual fire/explosion Hazards

This material is not explosive as defined by established regulatory criteria.

##### Special fire-fighting procedures

None identified.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal Precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).

##### Environmental precautions and cleanup methods

Splash goggles. Full suit. Boots. Gloves.

##### Personal Protection in Case of a Large Spill

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.

#### 7. HANDLING AND STORAGE

##### Handling Precautions

Avoid contact of spilled material and runoff with soil and surface waterways.

##### Storage Conditions

Keep container tightly closed. Keep container in a cool, well-ventilated area.

##### Caution

Do not use pressure to empty drum or drum may rupture with explosive force.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits

None assigned.

### Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

### Hygiene measures

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

### Personal protective equipment

#### Respiratory system

Use with adequate ventilation.

#### Skin and body

Avoid contact with skin. Wear clothing and footwear that cannot be penetrated by chemicals or oil.

#### Hands

Wear gloves that cannot be penetrated by chemicals or oil.

#### Eyes

Safety glasses with side shields.

## 9. PHYSICAL AND CHEMICAL PROPERTIES/TYPICAL VALUES

	Units	
Physical state		Buttery Solid
Color		Greenish
Oder		Mild Oil odor
Density @ 15°C	g/cm <sup>3</sup>	0.90
Flash point (COC)	°C	210
Boiling point	°C	416
Dropping point	°C	175
Solubility in Water		Insoluble

## 10. STABILITY AND REACTIVITY

### Hazardous decomposition products

No data available

### Chemical stability

Stable

### Condition to avoid

No data available

### Incompatibility with other materials.

May react with strong oxidizing agent, such as chlorates, nitrates, peroxides, etc.

### Hazardous polymerization

Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Eye effects

No product toxicology data available.

### Skin effects

No data available.

### Acute oral effects

No data available.

### Acute inhalation effects

No data available.

## 12. ECOLOGICAL INFORMATION

### Additional toxicology information

None of the oils requires a cancer warning under the OSHA Hazard Communication Standard(29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program(NTP)Annual Report nor have they been classified by the International Agency for Research on Cancer(IARC) as ; IARC group 3 (The agent is not classifiable as a possible Carcinogen to humans.) EU 67/548/EEC (the classification as a carcinogen need not apply.)

### Ecotoxicity

No data available.

### Persistence and degradability

This product is not expected to be readily biodegradable.

### Bioaccumulative potential

There is no evidence to suggest bioaccumulation will occur.

## 13. DISPOSAL CONSIDERATIONS

Place contaminated material in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this materials.

## 14. TRANSPORT INFORMATION

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

The description shown may not apply to all shipping situations. Consult 49CFR , or Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

## 15. REGULATORY INFORMATION

None of the listed components of this material are found on the regulatory lists indicates.

## 16. OTHER INFORMATION

### Complied by:

Cosmo Oil Lubricants  
Technical Department  
Shibaura, Minatoku, Tokyo Japan

This data sheet and the health, safety and environmental information it contains is considered to be accurate as of the date specified below. We have reviewed any information contained herein which we received from sources outside the Cosmo Oil Lubricants. However, no warranty or representation, express or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practise any patented invention without a valid licence. Cosmo Oil Lubricants shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

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