



SAFETY DATA SHEET

TIMKEN CONSTRUCTION AND OFF-HIGHWAY GREASE (GR219)

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product name	TIMKEN CONSTRUCTION AND OFF-HIGHWAY GREASE (GR219)
Synonyms, trade names	LUBRICATING GREASE
Product number	GR 219
Supplier	The Timken Corporation 1835 Dueber Ave. P.O. Box 6930 Canton, OH 44706-0930 USA Tel: (330) 438-3000
Emergency telephones	INFOTRAC U.S. and Canada - (800) 535-5053 Outside the U.S. and Canada - +01-352-323-3500
Date of last issue	2009-04-03

2. COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC no.	CAS no.	Content	Symbol	R-phrases
Lubricating oils (petroleum), base oils, highly refined**(2)	Mixture	Mixture**(2)	50-70 %	Xi	R-38
OVERBASED CALCIUM SULFONATE COMPLEX THICKENER	Proprietary	Proprietary	15-30 %	-	
molybdenum disulphide	215-263-9	1317-33-5	3-7 %	-	
BORIC ACID (H ₃ BO ₃), CALCIUM SALT		13840-55-6	1-5 %	T	R-60, 61
BENZENESULFONIC ACID, C ₁₀₋₁₆ -ALKYL DERIVS.		68584-22-5	1-5 %	-	

See section 16 for explanations of R-phrases

Composition comments	** (2) The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-83-7; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1. Carcinogenicity: The petroleum base oils contained in this product have been highly
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refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. All petroleum base oils contained in this product meet the IP 346 criteria of less than 3 percent PAH's and are not considered carcinogen by IARC, NTP or OSHA.

3. HAZARDS IDENTIFICATION

Exposure to vapors generated at high temperatures, may cause respiratory irritation. Prolonged exposure to product mist or vapors may cause respiratory irritation.

4. FIRST AID MEASURES

Inhalation	Move the exposed person to fresh air at once. For breathing difficulties oxygen could be necessary. Get medical attention if any discomfort continues.
Ingestion	DO NOT INDUCE VOMITING! Get medical attention immediately!
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eyes	Rinse with water. Contact physician if discomfort continues.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, fog or mist. Foam. Carbon dioxide (CO ₂). Dry chemicals, sand, dolomite etc.
Special firefighting procedures	Use water to keep fire-exposed containers cool and disperse vapours. Water spray could be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.
Specific hazards	If heated, volume and pressure increases strongly, resulting in explosion of container.
Hazardous combustion products	Acrid smoke/fumes. Oxides of: Carbon. Sulphur. Nitrogen.
Protective measures in the event of fire	Firefighters exposed to combustion gases/decomposition products should use a respiratory protective device.

6. ACCIDENTAL RELEASE MEASURES

Spill clean-up methods	Ventilate well. Wear necessary protective equipment. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Do not let washing down water contaminate ponds or waterways. Flush area with water.
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7. HANDLING AND STORAGE

Usage precautions	Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Containers should be kept tightly closed. Avoid spilling, skin and eye contact. Eye wash facilities and emergency shower must be available when handling this product.
Storage precautions	Keep away from heat, sparks and open flame. Store separated from: Acids. Oxidizer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Ingredient name	CAS no.	Reference	LT Exp 8 Hrs	ST Exp 15 Min
Lubricating oils (petroleum), base oils, highly refined**(2)	Mixture**(2)	OES.	5 mg/m ³	10 mg/m ³
molybdenum disulphide	1317-33-5	OES.	10 as Mo mg/m ³	20 as Mo mg/m ³

Protective equipment



Process conditions

Use engineering controls to reduce air contamination to permissible exposure level.

Ventilation

No specific ventilation requirements noted, but forced ventilation could still be required if air contamination exceeds acceptable level.

Respirators

No specific recommendation made, but respiratory protection could still be required under exceptional circumstances when excessive air contamination exists.

Protective gloves

Chemical-resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC.

Eye protection

Use eye protection.

Other protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygienic work practices

Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grease.		
Colour	Grey.		
Odour	Mild (or faint). Petroleum.		
Solubility description	Insoluble in water.		
Density (g/ml)	0.96	Temperature (°C)	15.6
Vapour density (air=1)	> 5		
Vapour pressure	< 0.1 mmHg	Temperature (°C)	20
Evaporation rate	< 1	Reference	BuAc=1
pH-value, conc. solution	N/A		
Flash point (°C)	246	Method	Cd OC (Cleveland open cup).

Flammability limit (%) N/D - N/D

10. STABILITY AND REACTIVITY

Stability Normally stable.

Conditions to avoid Avoid contact with acids and oxidizers.

Hazardous polymerization Will not polymerize.

Hazardous decomposition products Oxides of: Carbon. Sulphur.

11. TOXICOLOGICAL INFORMATION

Sensitization No known information.

Carcinogenicity OSHA Not Regulated. NTP Not Listed. IARC Not Listed.

Reproductive toxicity No known information.

Inhalation Could cause irritation to the respiratory system.

Ingestion Could cause stomach pain or vomiting.

Skin Prolonged or repeated contact leads to drying of skin.

Eyes Particles in the eyes could cause irritation and smarting.

Health warnings INHALATION. Oil mist can irritate airways and lungs. SKIN CONTACT. Prolonged or repeated contact leads to drying of skin. EYE CONTACT. Slightly irritating. INGESTION. Could cause Stomach ache or vomiting.

Route of entry Inhalation. Skin and/or eye contact. Ingestion.

COMPONENT: **Lubricating oils (petroleum), base oils, highly refined**(2)**

Toxicology data Carcinogenicity. IP 346 <3%

Toxic dose - LD50: > 5000 mg/kg (oral rat)

Toxic dose - LD50 (skin): > 2000 mg/kg (skin rabbit)

Toxic conc. - LC50: No Information Available (NIA).

COMPONENT: **OVERBASED CALCIUM SULFONATE COMPLEX THICKENER**

Toxic dose - LD50: > 2000 (estimated) mg/kg (oral rat)

Toxic dose - LD50 (skin): > 2000 (estimated) mg/kg (skin rabbit)

Toxic conc. - LC50: > 0.5 (estimated) mg/l (inhalation rat)

COMPONENT: **BORIC ACID (H3BO3), CALCIUM SALT**

Toxicology data Reproductive effects. WHMIS (Canada)

Reproductive effects. TDLo 3 generations Oral. Rat. mg/kg/day

Reproductive effects. TDLo 2 generations Oral. Mouse. mg/kg/day

Toxic dose - LD50:	2660-5140 mg/kg (oral rat)
Toxic dose - LD50 (skin):	> 2000 mg/kg (skin rabbit)
Toxic conc. - LC50:	0.89-21.1 mg/l
Genotoxicity	Boric acid causes lower fetal body weights in pregnant rats at 78 mg/kg/day and increased incidences of rib and brain abnormalities at higher doses.
Reproductive toxicity	Adverse reproductive effects have occurred in experimental animals. Boric acid was found to induce testicular atrophy and effects on spermatogenesis in rats and mice in various studies. Effects occurred at dose-levels (27 mg/kg) without general toxicity.
COMPONENT:	BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No data on possible environmental effects have been found.
COMPONENT:	Lubricating oils (petroleum), base oils, highly refined**(2)
COMPONENT:	OVERBASED CALCIUM SULFONATE COMPLEX THICKENER
Ecotoxicology data	WGK 2
COMPONENT:	BORIC ACID (H3BO3), CALCIUM SALT
COMPONENT:	BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.

13. DISPOSAL CONSIDERATIONS

Disposal methods	Dispose of in accordance with Local Authority requirements.
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14. TRANSPORT INFORMATION

ROAD TRANSPORT (ADR):	
ADR class	Not dangerous according to ADR.
SEA TRANSPORT (IMDG):	
Sea transport notes	Not regulated per IMDG.
AIR TRANSPORT (IATA/ICAO):	
Air transport notes	Not regulated per IATA.

15. REGULATORY INFORMATION

HAZARD LABELLING:

Risk phrases R-22 Harmful if swallowed.
R-36/37/38 Irritating to eyes, respiratory system and skin.
R-43 May cause sensitization by skin contact.
R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Xi, Xn

INVENTORIES:

16. OTHER INFORMATION

Explanations of R-phrases in Section 2 R-38 Irritating to skin. No R-phrases required. R-60 May impair fertility. R-61 May cause harm to the unborn child. Classification per Recommendations of the Technical Committee for Classification and Labelling and Specialised Experts for possible inclusion into the 30th ATP.

*** Information revised since previous SDS version**

Tariff Code 3403.19.0000 Lubricating preparations (including cutting-oil preparations, bolt or nut release preparations, antirust or anticorrosion preparations and mold release preparations, based on lubricants) and preparations of a kind used for the oil or grease treatment of textile materials, leather, furskins or other materials, but excluding preparations containing, as basic constituents, 70 percent or more by weight of petroleum oils or oils obtained from bituminous minerals: Containing petroleum oils or oils obtained from bituminous minerals: Other

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Disclaimer While the information and recommendations set forth herein are believed to be accurate as of the date thereof, The Timken Corporation makes no warranty with respect thereto and disclaims all liability from reliance therein.

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