

MATERIAL SAFETY DATA SHEET

TIMKEN FOOD SAFE GREASE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME TIMKEN FOOD SAFE GREASE

PRODUCT NO. GR231

SUPPLIER The Timken Corporation
1835 Dueber Ave.
P.O. Box 6930
Canton, OH 44706-0930 USA

EMERGENCY CONTACT INFOTRAC
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Date of last issue January 8, 2009

2. COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
*WHITE MINERAL OIL, PETROLEUM	8042-47-5	50-70 %
1-DECENE, HOMOPOLYMER, HYDROGENATED (COMMON NAME: MEDIUM POLYALPHAOLEFINS)	68037-01-4	10-20 %
ZINC OXIDE (ZnO)	1314-13-2	7-13 %
CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)	471-34-1	5-10 %
ALUMINUM COMPLEX THICKENER	Proprietary	5-10 %

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

COMPOSITION COMMENTS Refer to section eight for exposure limits on ingredients.
Chemical ingredients not regulated by OSHA or SARA are treated confidentially.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

For further information, please refer to section 11.

SENSITIZATION	No known information.
CARCINOGENICITY	IARC-1: The agent is carcinogenic to humans with sufficient evidence in humans. Silica, CAS # 14808-60-7.
TERATOGENICITY	No known information.
HEALTH WARNINGS	SKIN CONTACT. Slightly irritating. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Irritating. INHALATION. Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely due to the low volatility of this product. INGESTION. Can cause discomfort.
ROUTE OF ENTRY	Inhalation. Skin and/or eye contact. Ingestion.

4. FIRST AID MEASURES

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

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)	> 121 (250°F) Cd OC (Cleveland open cup), based on lowest flash point of base oils.
FLAMMABILITY LIMIT - LOWER(%)	N/D
FLAMMABILITY LIMIT - UPPER(%)	N/D
FLAMMABILITY CLASS	No Uniform Fire Code noted.
EXTINGUISHING MEDIA	Use: Foam. Carbon dioxide (CO ₂). Dry chemicals, sand, dolomite etc.
SPECIAL FIRE FIGHTING PROCEDURES	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures.
UNUSUAL FIRE & EXPLOSION HAZARDS	Volume and pressure increases strongly when heated. Risk of container explosion in fire.
HAZARDOUS COMBUSTION PRODUCTS	Acrid smoke/fumes. Oxides of: Carbon. Sulfur.
PROTECTIVE MEASURES IN CASE OF FIRE	Self-contained breathing equipment and chemical resistant clothing recommended.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Minimize skin contact.
PRECAUTIONS TO PROTECT THE ENVIRONMENT	Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land

areas. Assure conformity with applicable government regulations.

SPILL CLEAN-UP PROCEDURES

Non-hazardous substance. Collect in closed container.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS

Keep away from heat, sparks and open flame. Eye wash station should be available at the work place.

STORAGE PRECAUTIONS

Keep away from heat, sparks and open flame. Store separated from: Acids. Oxidizing materials.

STORAGE CRITERIA

Chemical storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
WHITE MINERAL OIL, PETROLEUM	OSHA			5 mg/m3 (oil mist)	
	ACGIH			5 mg/m3 (oil mist)	10 mg/m3 (oil mist)
ZINC OXIDE (ZnO)	OSHA	15 mg/m3 (total)		5 mg/m3 (resp)	
	ACGIH			2 mg/m3 (resp)	10 mg/m3 (resp)
CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)	OSHA	10 mg/m3 (total)		5 mg/m3 (resp)	
	ACGIH			10 mg/m3	** (e)

PROTECTIVE EQUIPMENT**ENGINEERING CONTROLS**

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

VENTILATION

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

RESPIRATORS

No specific recommendation made, but respiratory protection may 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: Rubber (natural, latex).

EYE PROTECTION

Wear splash-proof eye goggles to prevent any possibility of eye contact.

PROTECTIVE CLOTHING

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/PHYSICAL STATE

Grease.

COLOR	Light (or pale). White.		
ODOR	Mild (or faint).		
SOLUBILITY DESCRIPTION	Insoluble in water.		
SPECIFIC GRAVITY	0.90		
VAPOR DENSITY (air=1)	> 0.5		
VAPOR PRESSURE	< 0.1 mmHg	Temperature (°C)	20 (68°F)
EVAPORATION RATE	< 1	Reference	BuAc=1
pH-VALUE, CONC. SOLUTION	N/A		

10. STABILITY AND REACTIVITY

STABILITY	Normally stable.
CONDITIONS TO AVOID	Avoid contact with acids and oxidizing substances.
HAZARDOUS POLYMERIZATION	Will not polymerize.
MATERIALS TO AVOID	Acids, oxidizing.
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of: Carbon. Sulfur.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION No experimental toxicological data on the preparation as such is available.

COMPONENT	WHITE MINERAL OIL, PETROLEUM
TOXICOLOGICAL INFORMATION	This ingredient is a NF / USP grade White Mineral Oil which meets the requirements of the US FDA as per 21 CFR 172.878 and 21 CFR 178.3620(a).
TOXIC DOSE - LD 50	> 5000 similar mg/kg (oral rat)
TOXIC CONC. - LC 50	N/A.
COMPONENT	1-DECENE, HOMOPOLYMER, HYDROGENATED (COMMON NAME: MEDIUM POLYALPHAOLEFINS)
TOXIC DOSE - LD 50	> 2,000 mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN	> 2,000 mg/kg (skn rbt)
TOXIC CONC. - LC 50	> 5 mg/l
COMPONENT	ZINC OXIDE (ZnO)
TOXIC DOSE - LD 50	240 mg/kg (ipr-rat)
TOXIC DOSE - LD 50	7950 mg/kg (oral-mus)
TOXIC CONC. - LC 50	2500 mg/m3 (inh-mam.)
CARCINOGENICITY	OSHA: Not regulated. NTP: Not listed. IARC: Not listed as a Group 1, 2A, or 2B agent. EPA-D designation: Not classifiable as to human carcinogenicity.
COMPONENT	CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)
TOXIC DOSE - LD 50	6450 mg/kg (oral rat)

TOXIC CONC. - LC 50 No Information Available (NIA).

COMPONENT **ALUMINUM COMPLEX THICKENER**

TOXIC DOSE - LD 50 N/A.

TOXIC CONC. - LC 50 N/A.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION No data on possible environmental effects have been found.

COMPONENT **WHITE MINERAL OIL, PETROLEUM**

COMPONENT **1-DECENE, HOMOPOLYMER, HYDROGENATED (COMMON NAME: MEDIUM POLYALPHAOLEFINS)**

COMPONENT **ZINC OXIDE (ZnO)**

ECOTOXICOLOGICAL DATA WGK 2

ECOLOGICAL INFORMATION Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

OTHER INFORMATION Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

COMPONENT **CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)**

COMPONENT **ALUMINUM COMPLEX THICKENER**

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT HAZARD CLASS Non-Hazardous (No label required).

IDENTIFICATION No. N/A

REPORTABLE QUANTITY (RQ) No

U.S. DOT HAZARD LABEL No DOT label requirement

SEA TRANSPORT NOTES Not regulated per IMDG.

AIR TRANSPORT NOTES Not regulated per IATA.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
WHITE MINERAL OIL, PETROLEUM	No	No	No
1-DECENE, HOMOPOLYMER, HYDROGENATED (COMMON NAME: MEDIUM POLYALPHAOLEFINS)	No	No	No
ZINC OXIDE (ZnO)	No	***	N982 - Zn
CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)	No	No	No
ALUMINUM COMPLEX THICKENER	No	No	No

REGULATORY STATUS

*** Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting under Section 313.

CLEAN AIR ACT**US STATE REGULATIONS**

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
ZINC OXIDE (ZnO)					Yes	EH	

STATE REGULATORY STATUS

CALIFORNIA PROPOSITION 65: This product may contain the following chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required:
Crystalline silica, CAS# 14808-60-7, 50 ppm.
Cadmium, <1ppm
Lead, <1ppm

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

WHMIS NOT CONTROLLED: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Not a controlled product.

Risk phrases

R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GLOBAL INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
WHITE MINERAL OIL, PETROLEUM	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
1-DECENE, HOMOPOLYMER, HYDROGENATED (COMMON NAME: MEDIUM POLYALPHAOLEFINS)	DSL	Yes	Polymer	Yes	Yes	Yes	Yes	Yes
ZINC OXIDE (ZnO)	NPRI	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
CARBONIC ACID CALCIUM SALT (COMMON NAME: CALCIUM CARBONATE)	DSL	Yes	EINECS	Yes	1-122	Yes	Yes	Yes
ALUMINUM COMPLEX THICKENER	DSL	Yes	EINECS	Yes	9-1678	Yes	Yes	Yes

USA (TSCA)

All components in this product are listed on the US Toxic Substances Control Act (TSCA) Inventory or are exempt from TSCA Inventory requirements.

CANADA (DSL)

All components in this product are listed on the Canada Domestic Substances List (DSL) or are exempt from DSL requirements.

EUROPE (EINECS/ELINCS/NLP)

All components in this product are listed on the European Inventory of New and Existing

Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), or the No Longer Polymers (NLP) list, or are exempt from EU listing requirements.

JAPAN (ENCS)	All components in this product are listed on the Japan Inventory of Existing and New Chemical Substances (ENCS) or are exempt from ENCS requirements.
PHILIPPINES (PICCS)	All components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS) or are exempt from PICCS requirements.
AUSTRALIA (AICS)	All components in this product are listed on the Australian Inventory of Chemical Substances (AICS) or are exempt from AICS requirements.
KOREA (ECL)	All components in this product are listed on the Korea Existing Chemicals List (ECL) or are exempt from KECL requirements.
CHINA (IECS)	All components in this product are listed on the China Inventory of Existing Chemical Substances (IECS) or are exempt from IECS requirements.

16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

HEALTH	Irritation, minor residual injury (1) - HMIS/NFPA
FLAMMABILITY	Burns only if pre-heated (1) - HMIS/NFPA
REACTIVITY	Normally Stable (0) - HMIS/NFPA
NPCA HMIS HAZARD INDEX	Slight: Slightly Toxic - May cause slight irritation (1).
PERSONAL PROTECTION INDEX	A - Safety Eyewear
NPCA HMIS FLAMMABILITY INDEX	Burns only if pre-heated (1).
Tariff Code (Schedule B)	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
PREPARED BY	James P. McBriarty Maria Maka
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DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.
* Information revised since previous MSDS version	
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