

MATERIAL SAFETY DATA SHEET

TIMKEN AUTOMOTIVE WHEEL BEARING GREASE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME	TIMKEN AUTOMOTIVE WHEEL BEARING GREASE
PART No.	Chemtool, 372300, Timken, GR224, GR224TUB, GR224C
PRODUCT USE	Lubricating Grease
SUPPLIER	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 USA Tel: (815) 459-1250 Fax: (815) 459-1955
EMERGENCY TELEPHONE	Infotrac U.S. and Canada - (800) 535-5053 Outside the U.S. and Canada - 001-352-323-3500

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
DISTILLATES, PETROLEUM, HYDROTREATED HEAVY NAPHTHENIC	64742-52-5	50-70 %
DISTILLATES, PETROLEUM, SOLVENT-DEWAXED HEAVY PARAFFINIC	64742-65-0	30-50 %
RESIDUAL OILS, PETROLEUM, REFINED (CAS NOS 64742-57-0, 64742-62-7 & 72623-83-7)	Mixture	10-30 %
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	7620-77-1	5-10 %
*PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS	68649-42-3	1-5 %
*ANTIMONY DIALKYL DITHIOCARBAMATE (PROPRIETARY INGREDIENT# 20630)	Proprietary	0.1-1 %

* 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

ACUTE EFFECTS

HEALTH HAZARDS, GENERAL

Exposure to vapors generated at high temperatures may cause respiratory irritation.
Not regarded as a health hazard under current legislation.

CHRONIC EFFECTS

SENSITIZATION	No known information.
CARCINOGENICITY	IARC: Not listed. OSHA: Not regulated. NTP: Not listed.
TERATOGENICITY	No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

HEALTH WARNINGS

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. SKIN CONTACT. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Slightly irritating. INGESTION. Can cause stomach ache and vomiting. Main hazard, if ingested, is aspiration into the lungs and subsequent pneumonitis.

OTHER INFORMATION

ROUTE OF ENTRY	Inhalation. Skin and/or eye contact. Ingestion.
MEDICAL SYMPTOMS	MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not determined

4. FIRST AID MEASURES

INHALATION	Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor of hot product, immediately remove from source of exposure. 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 the eye with water immediately. Continue to rinse for at least 15 minutes. 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)	224 Cd OC (Cleveland open cup).
FLAMMABILITY LIMIT - LOWER(%)	N/D
FLAMMABILITY LIMIT - UPPER(%)	N/D
EXTINGUISHING MEDIA	Use: Carbon dioxide (CO ₂). Dry chemicals, sand, dolomite etc. Alcohol resistant foam. Water spray, fog or mist.
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. 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.
UNUSUAL FIRE & EXPLOSION HAZARDS	Pressure will increase in over heated, closed containers.
HAZARDOUS COMBUSTION PRODUCTS	Acrid smoke/fumes. Oxides of: Carbon.

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	Keep all sources of ignition and hot metal surfaces away from spill. Avoid contact with eyes or skin. Place leaking containers in well ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use absorbant material. Avoid discharge to natural water ways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS	Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Do not reuse container. Keep lid closed when not in use. Do not store or mix with strong oxidizers. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.
STORAGE PRECAUTIONS	Store separate from strong acids and oxidizers. Keep away from heat, sparks and open flame.
STORAGE CRITERIA	Chemical storage.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
DISTILLATES, PETROLEUM, HYDROTREATED HEAVY NAPHTHENIC	OSHA			5 mg/m3 ^{**} (1)	
	ACGIH			5 mg/m3 ^{**} (1)	10 mg/m3 ^{**} (1)
DISTILLATES, PETROLEUM, SOLVENT-DEWAXED HEAVY PARAFFINIC	OSHA			5 mg/m3 ^{**} (1)	
	ACGIH			5 mg/m3 ^{**} (1)	10 mg/m3 ^{**} (1)
RESIDUAL OILS, PETROLEUM, REFINED (CAS NOS 64742-57-0, 64742-62-7 & 72623-83-7)	OSHA			5 mg/m3 ^{**} (1)	
	ACGIH			5 mg/m3 ^{**} (1)	10 mg/m3 ^{**} (1)
ANTIMONY DIALKYL DITHIOCARBAMATE (PROPRIETARY INGREDIENT# 20630)	OSHA			0.5 mg/m3	
	ACGIH			0.5 mg/m3	

INGREDIENT COMMENTS

^{**}(1) For respirable oil mist.

^{**}(2) For respirable dust. ACGIH TLV = 10 mg/m3 for total dust.

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 recommended to prevent prolonged or repeated contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC. or latex.
EYE PROTECTION	Use eye protection.
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	Red.		
ODOR	Mild (or faint). Petroleum.		
SOLUBILITY DESCRIPTION	Insoluble in water.		
DENSITY	0.90	Temperature (°C)	16
VAPOR DENSITY (air=1)	> 5		
VAPOR PRESSURE	< 0.01 mmHg	Temperature (°C)	20
EVAPORATION RATE	< 1	Reference	BuAc=1

10. STABILITY AND REACTIVITY

STABILITY	Normally stable.
CONDITIONS TO AVOID	Avoid contact with acids and oxidizing substances.
HAZARDOUS POLYMERIZATION	Will not occur.
POLYMERIZATION DESCRIPTION	Not applicable
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

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

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION There is no ecological data on the product itself.

BIOACCUMULATION Not determined.

BIODEGRADABILITY Not determined.

ACUTE AQUATIC TOXICITY Not determined.

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).

SEA TRANSPORT NOTES Not regulated.

AIR TRANSPORT NOTES Not regulated.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
DISTILLATES, PETROLEUM, HYDROTREATED HEAVY NAPHTHENIC	No	No	No
DISTILLATES, PETROLEUM, SOLVENT-DEWAXED HEAVY PARAFFINIC	No	No	No
RESIDUAL OILS, PETROLEUM, REFINED (CAS NOS 64742-57-0, 64742-62-7 & 72623-83-7)	No	No	No
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	No	No	No
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS	No	***	N982
ANTIMONY DIALKYL DITHIOCARBAMATE (PROPRIETARY INGREDIENT# 20630)	No	***	N010

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

SARA(311/312) HAZARD CATEGORIES None

COMPONENT	US STATE REGULATIONS							
	CAS No	CA	FL	MA	MN	NJ	PA	RI
ANTIMONY DIALKYLDITHIOCARBAMATE (PROPRIETARY INGREDIENT# 20630)					Yes		EH	
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS					Yes	Yes	EH	

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

COMPONENT	INVENTORIES								
	CAN	US	EU	AUS	JAP	KOR	CHN	PHLP	
DISTILLATES, PETROLEUM, HYDROTREATED HEAVY NAPHTHENIC	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
DISTILLATES, PETROLEUM, SOLVENT-DEWAXED HEAVY PARAFFINIC	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
RESIDUAL OILS, PETROLEUM, REFINED (CAS NOS 64742-57-0, 64742-62-7 & 72623-83-7)	DSL	Yes	EINECS	Yes	Yes	Yes		Yes	
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
ANTIMONY DIALKYLDITHIOCARBAMATE (PROPRIETARY INGREDIENT# 20630)	DSL	Yes	EINECS	Yes	Yes	Yes		Yes	

16. OTHER INFORMATION

HEALTH	Irritation, minor residual injury (1) - HMIS/NFPA
FLAMMABILITY	Burns only if pre-heated (1) - HMIS/NFPA
REACTIVITY	Normally Stable (0) - HMIS/NFPA
PREPARED BY	James W. Hermann
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DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, Chemtool Incorporated makes no warranty with respect thereto and disclaims all liability from reliance therein.