



# SAFETY DATA SHEET

## TIMKEN AUTOMOTIVE WHEEL BEARING GREASE (GR224)

### 1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

<b>Product name</b>	TIMKEN AUTOMOTIVE WHEEL BEARING GREASE (GR224)
<b>Product number</b>	GR224
<b>Applications</b>	Lubricating Grease
<b>Supplier</b>	The Timken Corporation 1835 Dueber Ave. P.O. Box 6930 Canton, OH 44706-0930 USA Tel: (330) 438-3000
<b>Emergency telephones</b>	INFOTRAC U.S. and Canada - (800) 535-5053 Outside the U.S. and Canada - +01-352-323-3500
<b>Date of last issue</b>	2009-04-06

### 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)	80-90 %	Xi	R-38
LITHIUM COMPLEX GREASE THICKENER (LX 1)		PROPRIETA RY	5-10 %	Xi	R-38
BORIC ACID (H <sub>3</sub> BO <sub>3</sub> ), TRIS(2-ETHYLHEXYL) ESTER	219-581-9	2467-13-2	1-5 %	-	
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	272-028-3	68649-42-3B	0.5-1.5 %	Xi ,N	R-36, 51/53

See section 16 for explanations of R-phrases

<b>Composition comments</b>	Refer to section eight for exposure limits on ingredients. Chemical ingredients not regulated by WHMIS are treated confidentially. **(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.
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Carcinogenicity: The petroleum base oils contained in this product have been highly 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.

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### 3. HAZARDS IDENTIFICATION

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

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### 4. FIRST AID MEASURES

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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. INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.
Eyes	Rinse with water. Contact physician if discomfort continues.

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### 5. FIRE FIGHTING MEASURES

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Extinguishing media	Water spray, fog or mist. Foam. Carbon dioxide (CO <sub>2</sub> ). 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. Phosphorus. Sulphur.
Protective measures in the event of fire	Self-contained breathing equipment and chemical resistant clothing recommended.

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### 6. ACCIDENTAL RELEASE MEASURES

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Personal protection	Minimize skin contact. Avoid breathing vapors; wear appropriate respirator. Remove sources of ignition. Wear suitable eye protection.
Environmental protection	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 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.

## 7. HANDLING AND STORAGE

<b>Usage precautions</b>	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.
<b>Storage precautions</b>	Keep away from heat, sparks and open flame. Store separated from: Acids. Oxidizer.
<b>Storage criteria</b>	Storage of chemicals.

## 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 <sup>3</sup>	10 mg/m <sup>3</sup>

### Protective equipment



<b>Process conditions</b>	Use engineering controls to reduce air contamination to permissible exposure level.
<b>Ventilation</b>	No specific ventilation requirements noted, but forced ventilation could still be required if air contamination exceeds acceptable level.
<b>Respirators</b>	No specific recommendation made, but respiratory protection could still be required under exceptional circumstances when excessive air contamination exists.
<b>Protective gloves</b>	Chemical-resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC.
<b>Eye protection</b>	Use eye protection.
<b>Other protection</b>	Wear appropriate clothing to prevent repeated or prolonged skin contact.
<b>Hygienic work practices</b>	Wash at the end of each work shift and before eating, smoking and using the toilet.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Grease.
<b>Colour</b>	Red.
<b>Odour</b>	Mild (or faint). Petroleum.
<b>Solubility description</b>	Insoluble in water.

Specific gravity	0.90		
Vapour density (air=1)	> 5		
Vapour pressure	< 0.1 mmHg	Temperature (°C)	20 (68°F)
Evaporation rate	< 0.01	Reference	BuAc=1
pH-value, conc. solution	N/A		
Viscosity (interval)	13.5 - 16.5 cSt	Temperature (°C)	100 C
Flash point (°C)	232 (450°F)	Method	Cd OC (Cleveland open cup).
Flammability limit (%)	N/D - N/D		

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## 10. STABILITY AND REACTIVITY

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Stability	Normally stable.
Conditions to avoid	Avoid contact with acids and oxidizers.
Hazardous polymerization	Will not polymerize.
Hazardous decomposition products	Oxides of: Carbon. Phosphorus. Sulphur.

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## 11. TOXICOLOGICAL INFORMATION

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Sensitization	No known information.
Genotoxicity	No known information.
Carcinogenicity	IARC Not Listed. OSHA Not Regulated. NTP Not Listed.
Reproductive toxicity	No known information.
Inhalation	Inhalation hazard at room temperature is unlikely due to the low volatility of this product. Heating can generate vapors that may cause respiratory irritation, nausea and headaches.
Ingestion	Could cause stomach pain or vomiting.
Skin	Prolonged or repeated contact leads to drying of skin.
Eyes	May be slightly irritating to eyes.
Route of entry	Inhalation. Skin and/or eye contact. Ingestion.
Target organs	Skin. Mucous membranes. Eyes.
COMPONENT:	<b>Lubricating oils (petroleum), base oils, highly refined**(2)</b>
Toxicology data	Carcinogenicity. IP 346 <3%
Toxic dose - LD50:	> 5000 mg/kg (oral rat)
Toxic dose - LD50 (skin):	> 2000 mg/kg (skin rabbit)

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<b>Toxic conc. - LC50:</b>	No Information Available (NIA).
<b>COMPONENT:</b>	<b>LITHIUM COMPLEX GREASE THICKENER (LX 1)</b>
<b>Toxicology data</b>	WHMIS (Canada) D2B  Irritating effects. Skin. Mild Irritant (Read Across).  Irritating effects. Eye. Mild Irritant (Read Accross).
<b>Toxic dose - LD50:</b>	> 2,000 (Read Across) mg/kg (oral rat)
<b>Toxic dose - LD50 (skin):</b>	> 2,000 (Read Across) mg/kg (skin rabbit)
<b>COMPONENT:</b>	<b>BORIC ACID (H3BO3), TRIS(2-ETHYLHEXYL) ESTER</b>
<b>COMPONENT:</b>	<b>Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts</b>
<b>Toxic dose - LD50:</b>	4739 mg/kg (oral rat)
<b>Toxic dose - LD50 (skin):</b>	> 2000 mg/kg (skin rabbit)

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## 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	No data on possible environmental effects have been found.
<b>COMPONENT:</b>	<b>Lubricating oils (petroleum), base oils, highly refined**(2)</b>
<b>COMPONENT:</b>	<b>LITHIUM COMPLEX GREASE THICKENER (LX 1)</b>
<b>COMPONENT:</b>	<b>BORIC ACID (H3BO3), TRIS(2-ETHYLHEXYL) ESTER</b>
<b>COMPONENT:</b>	<b>Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts</b>

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## 13. DISPOSAL CONSIDERATIONS

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<b>Disposal methods</b>	Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.
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## 14. TRANSPORT INFORMATION

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### ROAD TRANSPORT (ADR):

<b>UN no. road</b>	N/A
<b>ADR class</b>	Not dangerous according to ADR.

### SEA TRANSPORT (IMDG):

<b>Sea transport notes</b>	Not regulated per IMDG.
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### AIR TRANSPORT (IATA/ICAO):

<b>Air transport notes</b>	Not regulated per IATA.
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## 15. REGULATORY INFORMATION

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### HAZARD LABELLING:

**Risk phrases** R-22 Harmful if swallowed.  
R-36 Irritating to eyes.  
R-38 Irritating to skin.

### INVENTORIES:

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

**EUROPE (EINECS/ELNICS/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.

**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.

**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

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**Explanations of R-phrases in Section 2** R-38 Irritating to skin. R-36 Irritating to eyes. R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### \* Information revised since previous SDS version

**Tariff Code** 2710.19.3750 Lubricating greases, with or without additives.

**Issued by** Regulatory Department

**Replacement of SDS generated** 2008-11-10

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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.

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