

MATERIAL SAFETY DATA SHEET

RHEOLUBE 375

According to EC Directive 2001/58/EC

1. Chemical and company identification

Name of chemical (Product name)	RHEOLUBE 375
Country	USA
Manufacturer	Nye Lubricants
Address	12 Howland Road
Division	Fairhaven, Ma 02719
Telephone	1-508-996-6721
Fax	
E-mail	
Country	Japan
Supplier	Tsuchiya Co., Ltd.
Address	9-29, Kamimaezu 2-chome,
Department	Naka-ku, Nagoya 460-8330
Telephone	www.tsuchiya-group.co.jp
Fax	
E-mail	
Emergency Contact	
Emergency Telephone	

MSDS Author

Product Code RHEOLUBE 375

Recommended use of the chemical and restrictions on use

Intended use Lubricating Grease

2. Hazards identification

GHS classification

Physical hazards	The product is not classified according to GHS.	
Health hazards	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 1
	Specific target organ toxicity, repeated exposure	Category 2 (lung, skin)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3

GHS label elements

Symbols



Signal words

Danger

Hazard statement

Suspected of causing genetic defects. May cause cancer. May cause damage to organs (lung, skin) through prolonged or repeated exposure. Harmful to aquatic life.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF exposed or concerned: Get medical advice/attention.

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Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards which do not result in classification	None known.
Supplemental information	97.3% of the mixture consists of component(s) of unknown acute oral toxicity. 97.3% of the mixture consists of component(s) of unknown acute dermal toxicity. 97.3% of the mixture consists of component(s) of unknown acute inhalation toxicity. 98.3% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 98.3% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.
Main symptoms and emergency overview	
Main symptoms	Coughing. Discomfort in the chest. Shortness of breath. Skin irritation. Rash. Defatting of the skin. Prolonged exposure may cause chronic effects.
Emergency overview	May cause damage to organs through prolonged or repeated exposure. May cause cancer. Suspected of causing genetic defects. Dangerous for the environment if discharged into watercourses.

3. Composition/information on ingredients

Substance or mixture	Mixture			
		Gazette notification		
Components	CAS Number	ENCS no.	ISHL no.	Concentration (%)
TRIPHENYL PHOSPHATE	115-86-6	(3)-2522, (3)-3363	(3)-2522, (3)-3363, 4-(9)-168, 4-(9)-250, 4-(9)-262	<= 5
WHITE MINERAL OIL	8042-47-5	(9)-1692, (9)-1703	(9)-1692, (9)-1703	<= 5
ZINC ALKYLARYLSULFONATE	28016-00-4	(4)-475	(4)-475	1.0
Other components below reportable levels				95 - 100
Chemical formula	C18-H15-O4-P (115-86-6), UVCB (8042-47-5), C28H44O3S.1/2Zn (28016-00-4), C28H44O3S.1/2Zn (28016-00-4)			

4. First aid measures

If inhaled	Move to fresh air.
If on skin	Wash off with soap and water. Get medical attention if irritation develops and persists.
If in eyes	Rinse with water. Get medical attention if irritation develops and persists.
If swallowed	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Coughing. Discomfort in the chest. Shortness of breath. Skin irritation. Rash. Defatting of the skin. Prolonged exposure may cause chronic effects.
Protection of first-aid responders	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.

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Protection of fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Methods or materials for containment and cleaning up	Soak up with inert absorbent material. Clean contaminated surface thoroughly. Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. Clean up spills immediately, observing precautions in Protective Equipment section. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling	
Technical measures (e.g. Local and general ventilation)	Provide adequate ventilation.
Safe handling advice	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors. Avoid prolonged exposure. Should be handled in closed systems, if possible. Avoid release to the environment. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.
Contact avoidance measures	For further information, please refer to section 10 of the SDS.
Hygiene measures	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Storage	
Safe storage conditions	Store locked up. Store away from incompatible materials (see Section 10 of the SDS).
Safe packaging materials	Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits

Japan. OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Components	Type	Value	Form
WHITE MINERAL OIL (CAS 8042-47-5)	TWA	3 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
TRIPHENYL PHOSPHATE (CAS 115-86-6)	TWA	3 mg/m3	

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US. ACGIH Threshold Limit Values

Components	Type	Value	Form
WHITE MINERAL OIL (CAS 8042-47-5)	TWA	5 mg/m3	Inhalable fraction.

Engineering measures

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Hand protection

Wear appropriate chemical resistant gloves.

Eye protection

Chemical respirator with organic vapor cartridge and full facepiece.

Skin and body protection

Use of an impervious apron is recommended.



9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid. Semi-solid
Color	Light Tan, Smooth

Odor Slight

pH Not available.

Melting point/Freezing point Not available.

Boiling point, initial boiling point, and boiling range Not available.

Flash point 482.0 °F (250.0 °C) ASTM D-92

Combustion characteristics (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Specific gravity 1.02 estimated

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

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Viscosity (Coefficient of viscosity)	Not available.
Other information	
Density	0.86 g/cm³
Explosive properties	Not explosive.
Flash point class	Combustible IIIB
Oxidizing properties	Not oxidizing.
Shelf life	4 years

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids, alkalies and oxidizing agents.
Hazardous decomposition products	Carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Oxides of phosphorus. Oxides of sulfur.

11. Toxicological information

Acute toxicity	Not known.	
Components	Species	Test Results
TRIPHENYL PHOSPHATE (CAS 115-86-6)		
Acute		
Dermal		
LD50	Rabbit	7900 mg/kg
Oral		
LD50	Rat	3500 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	Suspected of causing genetic defects.	
Carcinogenicity	May cause cancer.	
ACGIH Carcinogens		
TRIPHENYL PHOSPHATE (CAS 115-86-6)	A4 Not classifiable as a human carcinogen.	
WHITE MINERAL OIL (CAS 8042-47-5)	A4 Not classifiable as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
WHITE MINERAL OIL (CAS 8042-47-5)	3 Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	May cause damage to organs (lung, skin) through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	

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12. Ecological information

Ecotoxicological data

Components		Species	Test Results
TRIPHENYL PHOSPHATE (CAS 115-86-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.86 - 1.2 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.31 - 0.41 mg/l, 96 hours
WHITE MINERAL OIL (CAS 8042-47-5)			
Aquatic			
Fish	LC50	Fish	> 10000 mg/l, 96 Hours
Ecotoxicity	Harmful to aquatic life.		
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulation			
Mobility in soil	No data available for this product.		
Hazardous to the ozone layer	No data available.		
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Dispose in accordance with all applicable regulations.

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

14. Transport information

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

National regulations Follow regulation in section 15 for domestic transportation.

15. Regulatory information

Industrial Safety and Health Act

Notifiable substances

MINERAL OIL Table 9 Ordinance No. 168 0 - 5.0 %

Labeling substances

MINERAL OIL 0 - 5.0 %

TRIPHENYLPHOSPHATE 0 - 5.0 %

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Poisonous and Deleterious Substances Control Act

Specified poisonous substances

Not regulated.

Poisonous substances

Not regulated.

Deleterious substances

Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances

Not regulated.

Class II specified chemical substances

Not regulated.

Monitoring chemical substances

Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Reporting Exempted Substances

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 1 substances (substance name, ordinance number and content)

ZINC COMPOUNDS, WATER-SOLUBLE Ordinance No. 1 1.0 % (ZINC ALKYLARYLSULFONATE)

Class 2 substances (substance name, ordinance number and content)

Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule

Not regulated.

Air Law, Enforcement Rule

Not regulated.

Explosives Control Act

Not regulated.

Water Pollution Control Act

PHOSPHORUS

16. Other information

Bibliography

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012
JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2012 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)

Nye Lubricants, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.