

P/N 30301910-00 PRODUCTION

P/N 286436-00 - 500g



# NYE RHEOLUBE® 380

*EP-Fortified, Rust Inhibited*

A lithium soap thickened, blended base oil gear grease suited for long life metal gears in automotive starters, power tools, and heavily loaded mechanical.

*The SmartGrease Company*

Lubricant Properties			Typical Value	Test Method
Recommended Service Range (°C)			- 50 to 130	
Thickener			Lithium Soap	
			PAO/Ester	
Base Oil	Type		5.9	ASTM D-445
	Kinematic Viscosity cSt (mm <sup>2</sup> /s)	100°C	31.7	
		40°C	10,587	
		-40°C		
	Viscosity Index		132	ASTM D-2270
Flash Point (°C)		260	ASTM D-92	
Pour Point (°C)		- 58	ASTM D-97	
Typical Properties of the Grease				
Color, Appearance			Black, Smooth	
Penetration 1/10 mm	Unworked		265	ASTM D-217
	Worked	60 X	277	
		10,000 X	316	
		100,000 X	-	
NLGI Grade		2		
Density	gm/cc	25°C	0.91	ASTM D-1480
Dropping Point (°C)			190	ASTM D-2265
Oil Separation	24 hours	100°C	4.6 %	FTM 791B, 321.2
Oil Separation	24 hours	25°C	5.0 %	ASTM D-1742
Evaporation	24 hours	100°C	0.3 %	ASTM D-972
Water Washout	60 minutes	40°C	3.6 %	ASTM D-1264
Water Washout	60 minutes	80°C	12 %	ASTM D-1264
Copper Corrosion	24 hours	150°C	1A, No Corrosion	ASTM D-4048
4 Ball Wear	60 min., 1200 RPM 40 kg. load	75°C	0.46 mm	ASTM D-2266
		150°C	-	
Low Temperature Torque (-40°C) gm-cm	Starting Torque		1,386	ASTM D-1478
	Running Torque	10 minutes	442	
	Running Torque	60 minutes	266	
Oxidative Stability	168 hours	100°C	No Pressure Change	ASTM D-942
Bearing Rust Test			Pass	ASTM D-1743
Apparent Viscosity			See Figure 1	

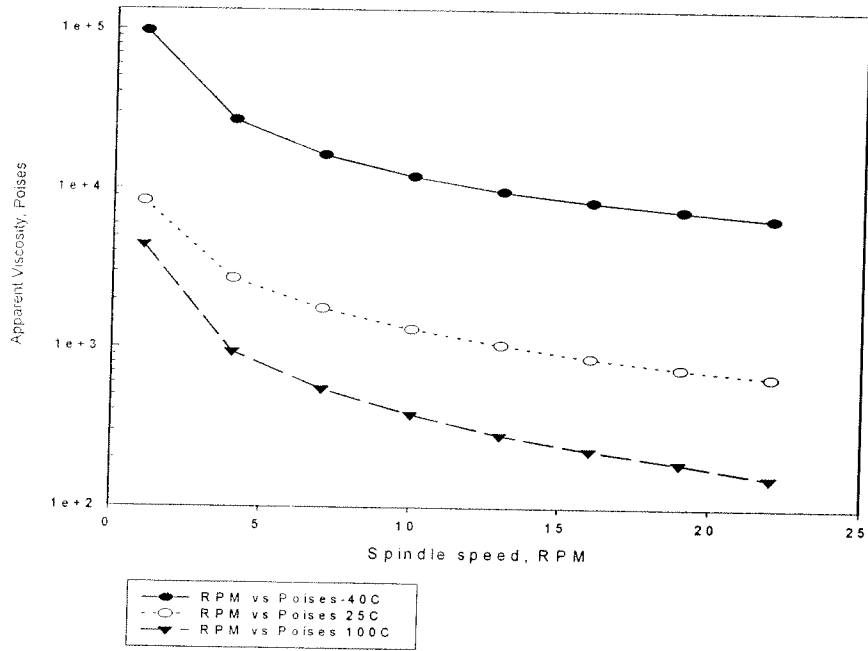
The typical properties shown on this product data sheet should not be used as a basis for preparing specifications. Refer to our product Material Safety Data Sheet for detailed safety information. (0206)

Nye Lubricants, Inc. 12 Howland Road, Fairhaven, MA 02719 USA Ph: 1.508.996.6721 Fx: 1.508.997.5285 [nyelubricants.com](http://nyelubricants.com)

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we cannot guarantee the applicability of this information or the suitability of our products in any individual situation. For the same reason, the products discussed are sold without warranty, express or implied. Statements concerning the possible use of our products are not intended as recommendations to use our product in the infringement of any patent.

Nye Rheolube 380

Figure 1



# RHEOLUBE 380

Product: 380

Revision Date: 2003/02/11

## Section 1 : PRODUCT AND COMPANY IDENTIFICATION

**Manufacturer:** Nye Lubricants, Inc.

**Manufacturer emergency phone number:** Chemtrec\* 800-424-9300.  
508-996-6721 (8:00AM - 5:00PM ET weekdays).

**Product name:** Rheolube 380.

**Chemical family:** Lubricating grease.

### HMIS

H 1

F 1

R 0

PPE Sec.  
8

## Section 2 : INGREDIENT INFORMATION

C.A.S.	Conc% wgt/wgt	Ingredient Name	ACGIH-TLV TWA	LD50	LC50
115-86-6	0.9 - 1.2	TRIPHENYL PHOSPHATE	3 MG/M3	3500 MG/KG RAT ORAL 1320 MG/KG MOUSE ORAL >7900 MG/KG RABBIT DERMAL	NOT AVAILABLE
1317-33-5	5	MOLYBDENUM SULFIDE	10 MG/M3, TOTAL DUST	NOT AVAILABLE	>2820 MG/M3/4H RAT INHALATION
28016-00-4	1.3 - 1.7	ZINC DINONYLNAFITHALENE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
	1.8 - 2.1	BUTYLATED TRIPHENYL PHOSPHATE MIXTURE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
		OIL MIST	5 MG/M3	NOT AVAILABLE	NOT AVAILABLE

## Section 2A: ADDITIONAL INGREDIENT INFORMATION

**Note:** Product formulation is Proprietary.  
No other ingredients are known to be hazardous under normal usage.

**Note:** CAS# 1317-33-5  
ACGIH TLV TWA - 3 mg/m3, Resp. Dust.

## Section 3 : HAZARD IDENTIFICATION

**Emergency overview:** May irritate eyes. Prolonged or repeated skin contact may cause irritation. Inhalation of oil mist or vapors may irritate respiratory passages. Contains a small percentage of triphenyl phosphate, which may cause cholinesterase inhibition at levels above the exposure limits.

**Route of entry:** Skin contact, eye contact, inhalation and ingestion.

### Effects of acute exposure

**Eye contact:** May cause irritation.

**Skin contact:** May cause irritation.

**Inhalation:** May cause cholinesterase inhibition.  
Oil mist and vapors may irritate respiratory passages.

**Ingestion:** May cause gastro-intestinal irritation.  
May cause cholinesterase inhibition.

**Effects of chronic exposure:** See effects of acute exposure.

**Carcinogenic Effects:** This product or its ingredients are not carcinogens.

**Medical conditions aggravated by exposure:** Persons with pre-existing neuromuscular disorders may be at an increased risk from exposure.

**Target organs:** Respiratory passages, eyes, skin.

#### Section 4 : FIRST AID MEASURES

**Skin contact:** Remove contaminated clothing.  
Wash thoroughly with soap and water.  
Seek medical attention if irritation persists.

**Eye contact:** Flush with water for at least 15 minutes.  
Obtain immediate medical attention.

**Inhalation:** Remove victim to fresh air. If not breathing, qualified personnel should administer artificial respiration. Get medical attention.  
If breathing is difficult, administer oxygen.

**Ingestion:** Obtain immediate medical attention.  
Do not induce vomiting, unless directed to do so by a physician.

**Note to physician:** In cases of cholinesterase inhibition, atropine by injection is antidotal.  
Pralidoxime chloride (2-PAM; Protopam chloride) is also antidotal when administered early and in conjunction with atropine.  
This product contains a small percentage of an organophosphorus mixture, which contains triphenyl phosphate. Triphenyl phosphate has been reported to be a weak cholinesterase inhibitor in humans. Symptoms of cholinesterase inhibition may include: headache, nausea, sweating, numbness and tingling of the hands and feet, salivation, muscle twitching, tremors, incoordination, blurred vision, tears, abdominal cramps, diarrhea, and chest discomfort.

#### Section 5 : FIRE FIGHTING MEASURES

**Flammability:** Not flammable.

**Conditions of flammability:** At temperatures at or above flash point.

**Extinguishing media:** Carbon dioxide, dry chemical, foam.  
Water spray.

**Special procedures:** Self-contained breathing apparatus required.  
Firefighters should wear the usual protective gear.  
Do not let firefighting water runoff enter a sewer.

**Auto-ignition temperature:** Not available.

**Flash point (°C), method:** Closed Cup.  
ASTM D-93.  
>400°F (204°C).

**Lower flammability limit (% vol):** Not available.

**Upper flammability limit (% vol):** Not available.

#### Explosion Data

**Sensitivity to static discharge:** Not available.

**Sensitivity to mechanical impact:** Not available.

**Hazardous combustion products:** Carbon monoxide (CO).  
Oxides of phosphorus (PO<sub>x</sub>).  
Oxides of sulfur (SO<sub>x</sub>).  
Traces of other toxic fumes.

**Rate of burning:** Not available.

**Explosive power:** Not available.

#### Section 6 : ACCIDENTAL RELEASE MEASURES

**Leak/Spill:** Contain the spill.  
Prevent entry into drains, sewers, and other waterways.  
Area will be slippery until cleaned.  
Wear appropriate protective equipment.  
Wipe or scrape up spilled material.  
Wash spill area after material pick up is complete.  
Observe precautions from other sections.

#### Section 7 : HANDLING AND STORAGE

**Handling procedures and equipment:** Wash thoroughly after using, particularly before eating or smoking.  
Do not eat, drink or smoke in handling area.  
Avoid contamination of cigarettes or other tobacco products.  
Launder contaminated clothing prior to reuse.  
Users should be alert to the possibility that very small percentages of the population may display unexpected allergic reactions to otherwise innocuous industrial lubricants and raw materials.

**Storage requirements:** Store away from incompatible materials.  
Do not store in open or unlabelled containers.

#### Section 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

##### Precautionary Measures

**Gloves/Type:**



Chemical resistant gloves.  
Avoid skin contact.

**Respiratory/Type:** None required under normal use.



If exposure limit is exceeded, wear a NIOSH approved respirator.  
Avoid breathing oil mist.

**Eye/Type:**



Safety glasses, goggles or faceshield.

**Footwear/Type:** Safety shoes per local regulations.

**Clothing/Type:** Wear adequate protective clothes.



Apron

**Other/Type:** Eye wash facility should be in close proximity.  
Emergency shower should be in close proximity.

**Ventilation requirements:** Local ventilation is generally not necessary under normal conditions of use with adequate general ventilation. Ventilation and other forms of engineering controls are the preferred means for controlling chemical exposures.

**Section 9 : PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state:** Semi-solid.

**Appearance & odor:** Mild odour.  
Black  
Smooth grease.

**Odor threshold (ppm):** Not available.

**Vapour pressure (mmHg):** Negligible.

**Vapour density (air=1):** Not available.

**Volatiles (%):** None

**Evaporation rate (butyl acetate = 1):** Not available.

**Boiling point (°C):** Not volatile.

**Freezing point (°C):** (drop point).  
190°C

**pH:** Not available.

**Specific gravity @ 20 °C:** (water = 1, @ 4°C).  
0.91 @ 25°C

**Solubility in water (%):** Insoluble.

**Coefficient of water\oil dist.:** Not available.

**VOC:** None

**Section 10 : STABILITY AND REACTIVITY**

**Chemical stability:** Stable under normal conditions.

**Conditions of instability:** Pyrolysis.

**Hazardous polymerization:** Will not occur.

**Incompatible substances:** Strong acids.  
Strong alkalis.  
Strong oxidizing agents.

**Hazardous decomposition products:** See hazardous combustion products.

**Section 11 : TOXICOLOGICAL INFORMATION**

**Sensitization to product:** Not available.

**Reproductive effects:** Not available.

**Teratogenicity:** Not available.

**Mutagenicity:** Not available.

**Synergistic materials:** Not available.

**Section 12 : ECOLOGICAL INFORMATION**

**Environmental toxicity:** No data at this time.

**Environmental fate:** No data at this time.

**Section 13 : DISPOSAL CONSIDERATIONS**

**Waste disposal:** Contact a licensed waste-disposal contractor for detailed recommendations. Many states classify waste lubricants as "hazardous", which means disposal can only be a licensed firm. Follow applicable national and regional provisions.

**Section 14 : TRANSPORT INFORMATION**

**ADR Classification:** Not regulated.

**Section 15 : REGULATORY INFORMATION**

**EU Regulatory Information**

**European Union (EU) Regulatory** EU labeling not required.

**Information:** This product is not dangerous as defined by the European Union.

**EU Risks:** Not applicable.

**EU Safety:** Not applicable.

**EINECS#:** CAS# 115-86-6 - EINECS# 204-112-2.  
CAS# 28016-00-4 - EINECS# 248-778-2.  
CAS# 1317-33-5 - EINECS# 215-263-9.

**EU Classification:** Not applicable.

**Section 16 : OTHER INFORMATION**

**Supplier MSDS date:** 2003/02/11

**Data prepared by:** GSM

**Disclaimer:** While the information and recommendations set forth herein are believed to be accurate as of the date hereof, Nye Lubricants, Inc. makes no warranty with respect thereto and disclaims all liability with respect thereon.