



Prepared according to Global Harmonized System (GHS) standards

SECTION 1


CHEMICAL PRODUCT IDENTIFICATION

Graco Inc.
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Product Trade Name: Graco Pump Armor
CAS Number: Mixture
Synonyms/Other: Not applicable.
Part Number(s): 243103, 245133, 243104, 244168, 248555, 248556, 253574, 16M816, 24D386, 16W448
Recommended Use: Corrosion Inhibitor / Lubricant.
Restrictions on Use: Not determined
Created Date: 10/22/2013
Preparation/Revision Date: 9/26/2014
Emergency Phone Number: 1-800-424-9300 (CHEMTREC)

SECTION 2

HAZARD IDENTIFICATION

Appearance: Clear blue liquid.
Odor: Mild, sweet odor.
Classification: Acute Toxicity - oral category 4
Target Organs: Stomach and intestines
Pictogram(s): 
Signal Word: WARNING
Hazard Statement: H302 - Harmful if swallowed
Other Hazards: Not determined.
Prevention: P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink, or smoke when using this product.
Response: P330 - Rinse mouth.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Storage Procedures: None required.
Disposal: P501 - Dispose of contents and container in accordance with federal, state, and local regulations.
Other: See section 11 for complete health hazard information.

SECTION 3

COMPOSITION OF INGREDIENTS

Component	CAS Number	Percentage (by weight)
Ethylene glycol	107-21-1	40-60%
Dipotassium phosphate	7758-11-4	0.1-1.0%
Sodium nitrate	7632-00-0	0.1-1.0%
Denatonium benzoate	3734-33-6	<0.1%

The balance of components do not contribute to the overall classification of the fluid, according to the GHS Standard.

**SECTION 4****FIRST AID MEASURES**

Eye Contact:	If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice/attention.
Skin Contact:	Call a doctor if you feel unwell.
Inhalation:	Get medical advice or attention if you feel unwell or are concerned.
Ingestion:	Rinse mouth. Do not induce vomiting, and immediately call a poison center or doctor. If vomiting occurs naturally, lie on your side, in the recovery position.
Other:	Contains ethylene glycol, which is toxic when swallowed. A lethal dose of ethylene glycol for an adult human is 1-2 mL per kilogram of body weight, or about 4 ounces (1/2 cup) for a 130-lb adult and may show delayed onset of symptoms.

SECTION 5**FIRE FIGHTING MEASURES**

Flash Point:	118°C (>244°F) typical by ASTM D 92 for Ethylene Glycol.
Flammable limits:	Not determined.
Extinguishing media:	Use dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire.
Special firefighting procedures:	DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).
Unusual fire & explosion hazards:	Dense smoke may be generated while burning. Toxic fumes, gases or vapors may evolve on burning. High temperatures may create heavy flammable vapors that may settle along ground level and low spots to create an invisible fire hazard.
Byproducts of combustion:	Fires involving this product may release oxides of carbon, phosphorus, nitrogen and sulfur; reactive hydrocarbons and irritating vapors.
Autoignition temperature:	Not determined.
Explosion data:	Not determined. Care should always be exercised in dust/mist areas.
Other:	Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6**ACCIDENTAL RELEASE MEASURES**

Spill control procedures (land):	Immediately turn off or isolate any source of ignition (pilot lights, electrical equipment, flames, heaters, etc.). Evacuate area and ventilate. Personnel wearing proper protective equipment should contain spill immediately with inert materials (sand, earth, chemical spill pads or cotton) by forming dikes. Dikes should be placed to contain spill in a manner that will prevent material from entering sewers and waterways. Large spill, once contained, may be picked up using explosion proof, non-sparking vacuum pumps, shovels, or buckets, and disposed of in suitable containers for disposal. If a large spill occurs notify appropriate authorities. In case of road spill or accident contact Chem-Trec (800-424-9300).
Spill control procedures (water):	Try to contain large spills with floating booms to prevent spill from spreading. Remove from surface by skimming or with suitable adsorbents. If a large spill occurs notify appropriate authorities (normally the National Response Center or Coast Guard at 800-424-8802).
Waste disposal method:	Do not empty into drains. All disposals must comply with federal, state, and local regulations. The material, if spilled or discarded may be a regulated waste. Refer to state and local regulations. Department of Transportation (DOT) regulations may apply for transporting this material when spilled. See Section 14.
Other:	CAUTION - If spilled material is cleaned up using a regulated solvent, the resulting waste mixture will be regulated.

**SECTION 7****HANDLING AND STORAGE**

- Handling procedures:** Keep containers closed when not in use. Do not transfer to unmarked containers. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld, or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.
Handling temperatures should not exceed 60°C (140°F) to minimize danger of burns. Open containers carefully in a well ventilated area or use appropriate respiratory protection. Wash thoroughly after handling.
- Storage procedures:** Store containers away from heat, sparks, open flame, or oxidizing materials. Extended storage at excessive temperatures may produce odorous and toxic fumes from product decomposition.
- Additional information:** No additional information.

SECTION 8**EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Personal protection:** Applicable mainly to persons in repeated contact situations such as packaging of product, service/maintenance, and cleanup/spill control personnel.
- Respiratory protection:** None required if ventilation is adequate. Otherwise a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. Where misting may occur, wear an MSHA/NIOSH approved (or equivalent) half-mask form dust/mist air purifying respirator.
- Eye protection:** Eye protection is strongly recommended. Wear safety glasses with side shields or vented/splash proof goggles (ANSI Z87.1 or approved equivalent).
- Hand protection:** Impervious, chemically resistant gloves such as neoprene or nitrile rubber to avoid skin sensitization and absorption.
- Other protection:** Use of an apron and overboots of chemically impervious materials such as neoprene or nitrile rubber is recommended based on level of activity and exposure. If handling hot material use insulated protective equipment. Launder soiled clothes. Properly dispose of contaminated leather articles and other materials which cannot be decontaminated.
- Local control measures:** Use adequate ventilation when working with material in an enclosed area. Mechanical methods such as fume hoods or area fans may be used to reduce localized vapor/mist areas. If vapor or mist is generated when the material handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure. Eyewash stations and showers should be available in areas where this material is used and stored.
- Other:** Consumption of food and drink should be avoided in work areas where product is present. Always wash hands and face with soap and water before eating, drinking or smoking.

SECTION 9**PHYSICAL AND CHEMICAL PRPERTIES**

- Appearance:** Clear blue liquid.
- Odor:** Mild, sweet odor.
- Odor threshold:** Not determined.
- pH:** Approximately 10-11.
- Melting/Freezing point:** Not determined.
- Initial boiling point:** Not determined.
- Boiling range:** Not determined.
- Flash point:** 118°C (>244°F) typical by ASTM D 92 for Ethylene Glycol.
- Evaporation rate:** Not determined.
- Flammability:** Not determined.
- Upper flammable limit:** Not determined.



Lower flammable limit:	Not determined.
Vapor pressure:	Not determined.
Vapor density:	Greater than air.
Relative density:	1.08 g/cm ³ at 15.6°C.
Solubility:	Fully miscible in water, immiscible in most petroleum solvents.
Partition Coefficient:	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Not determined.
Other	Not applicable.

SECTION 10

STABILITY AND REACTIVITY

Reactivity

Chemical stability:	Material is chemically stable at room temperatures and pressure.
Hazardous polymerization:	Will not occur.
Conditions to avoid:	Avoid high temperatures and product contamination. Avoid all sources of ignition including heat, sparks, and open flame.
Incompatibility with other materials:	Avoid contact with acids and strong oxidizing materials.
Decomposition products:	Smoke, carbon monoxide, carbon dioxide, and other aldehydes of incomplete combustion. Oxides of carbon, nitrogen, and sulfur; reactive hydrocarbons and irritating vapors.
Other:	Not applicable.

SECTION 11

TOXICOLOGICAL INFORMATION

Acute toxicity (LD50) *See note at the bottom of the section

Oral:	300 - 2000 mg/kg
Dermal:	>5000 mg/kg
Inhalation:	>20.0 mg/l
Skin irritation:	Non-irritant
Eye irritation:	Non-irritant
Dermal sensitization:	Not expected to have a sensitizing effect.
Respiratory sensitization:	Not expected to have a sensitizing effect.
Aspiration Hazard:	Not applicable

Chronic Toxicity

Mutagenicity:	Not suspected of causing genetic defects
Carcinogenicity:	Not suspected of causing cancer.
Reproductive toxicity:	Not expected to have adverse effects.
STOT-single exposure:	Not expected to have adverse effects.
STOT-repeated exposure:	Not expected to have long term adverse effects.
Other:	*All data in this section is based off calculations from Part 3 of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) utilizing information from the constituent components.

Contains ethylene glycol, which is toxic when swallowed. A lethal dose of ethylene glycol for an adult human is 1-2 mL per kilogram of body weight, or about 4 ounces (1/2 cup) for a 130-lb adult and may show delayed onset of symptoms.

SECTION 12

ECOLOGICAL INFORMATION

Environmental toxicity

Fish:	> 100 mg/l.
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Invertebrates: > 100 mg/l.
Aquatic plants: > 100 mg/l.
Microorganism: > 100 mg/l.
Persistence/Degradability: This product is not expected to be readily biodegradable.
Bioaccumulation: Not determined.
Mobility in soil: Not determined.
Other: All classifications are based on calculations in Part 4 of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) utilizing information from the constituent components.

SECTION 13

DISPOSAL CONSIDERATIONS

Waste disposal: This product unadulterated by other materials can be classified as a non-hazardous waste. Depending on use, used product may be regulated. Dispose of in a licensed facility. Do not discharge product in to sewer system. Dispose of containers by crushing or puncturing, so as to prevent unauthorized use of used containers. Waste management should be in full compliance with federal, state, and local laws.

Other The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.

SECTION 14

TRANSPORT INFORMATION

Land Transport (DOT): UN3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (ethylene glycol), 9, III
Land Transport (TDG): UN3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (ethylene glycol), 9, III
Sea Transport (IMDG): UN3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (ethylene glycol), 9, III
Air Transport (IATA): UN3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (ethylene glycol), 9, III
Other: These materials are exempt from DOT regulations unless quantities greater than 5000 pounds are transported. This exclusion applies to consumer packaging up to DOT shipping drums (515 pounds) and small totes. Shipping notification occurs at 5000 pounds, or approximately 531 gallons.

Information according to 49 CFR 172.101 for materials predominantly composed of ethylene glycol and glycol suppliers.

SECTION 15

REGULATORY INFORMATION

Federal Regulation

Clean water act/oil: Contact the National Response Center at 800-424-8802, if located in the US, in the case of a spill that enters waterways.

TSCA: All components of this material are listed in the U.S. TSCA Inventory.

Other TSCA: Not applicable.

SARA title III: Section 302/304 extremely hazardous substances:
None.

Section 311, 312 hazard categorization:

Acute (immediate health effects):	YES
Chronic (delayed health effects):	NO
Fire (hazard):	NO



Reactivity (hazard): NO
 Pressure (sudden release hazard): NO

Section 313 toxic chemicals:
 Ethylene glycol <60%

CERCLA: For stationary sources – reportable quantity:
 5000 pounds due to ethylene glycol.
 For moving sources – reportable quantity:
 5000 pounds due to ethylene glycol.

State Regulations
Right-to-know

Ethylene Glycol (Florida, Massachusetts, Minnesota, Pennsylvania), Diethylene Glycol in trace amounts (Minnesota, Pennsylvania).

Other: Clean Air Act of 1990: Spills of one pound (~1 pint) or more must be reported.
 For location specific information contact the EPA's Chemical Emergency Preparedness Program Hotline (800-535-0202).

EPA Toxin: This material is an EPA toxin (ethylene glycol).

Recommend contacting the local authorities in the event of any type of spill to determine local reporting requirements and also to aid in the cleanup.

SECTION 16 OTHER INFORMATION

	NFPA 704	NPCA-HMIS	KEY
HEALTH:	2	2	0 = Minimal
FIRE:	1	1	1 = Slight
REACTIVITY:	0	0	2 = Moderate
SPECIFIC HAZARD:	None	N/A	3 = Serious
PROTECTION INDEX:	N/A	B	4 = Severe

Version: IV

This Safety Data Sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this Data Sheet which we have received from sources outside our company. We believe that information to be correct, but cannot guarantee its accuracy or completeness. Health and safety precautions in this Data Sheet may not be adequate for all individuals and/or situations. It is the users' obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this Data Sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either express or implied.

NOTES: NA = Not Applicable; NE = Not Established; UN = Unavailable

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
 Graco reserves the right to make changes at any time without notice.*

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 Updated Sections 14 and 15, reviewed entire document: 9/11/2014
 Re-evaluated Section 2 based on reaction products present in the final material, revised Section 3 based on reaction products present in the final material, revised Section 4 per customer request, revised Section 5, revised Section 9, added information to "Other" field of Section 11 per customer request, added information to "Other" field of Section 14 per customer request, updated Section 16: 9/19/2014
 Added customer part numbers, updated SDS number, added email address to contact information, updated footer of last page per customer request: 9/23/2014
 Added missing CAS number to Section 3: 9/26/2014