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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : Pump Armor
UFI : A300-N07X-D001-G8C6
Part Number(s) : 243103, 243104, 244168, 245133, 253574, 16M816, 16P358, 16W448, 17A000, 17V049, 24D386, 24N478, 24Y195
Document no. : MSD029ENEU
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1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Intended for general public
Main use category : Industrial uses, Professional uses, Consumer use
Use of the substance/mixture : Lubricant
Corrosion inhibitor

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

GRACO DISTRIBUTION BV
Slakweidestraat 31
3630 Maasmechelen - Belgium
T +32 89 770 700
reach@graco.com - www.graco.com

GRACO Ltd.
29 Wellington St
LS1 4DL Leeds - United Kingdom
T 0800 404 76 60
reach@graco.com

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302

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STOT RE 2 H373

Full text of H- and EUH-statements: see section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word :

Warning

Contains :

ethylene glycol, sodium nitrite

Hazard statements (CLP) :

H302 - Harmful if swallowed.
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Precautionary statements (CLP) :

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P260 - Do not breathe vapours.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P314 - Get medical advice/attention if you feel unwell.
P501 - Dispose of contents and container to an approved waste disposal plant.

Child-resistant fastening :

Not applicable

Tactile warning :

Applicable

2.3. Other hazards

Other hazards :

Results of PBT and vPvB assessment : Not applicable.

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component	
ethylene glycol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethylene glycol substance with a Community workplace exposure limit	(CAS-No.) 107-21-1 (EC-No.) 203-473-3 (EC Index) 603-027-00-1 (REACH-no) 01-2119456816-28-XXXX	55 – 60	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
sodium nitrite	(CAS-No.) 7632-00-0 (EC-No.) 231-555-9 (EC Index) 007-010-00-4	0,1 – 1	Ox. Sol. 3, H272 Acute Tox. 3 (Oral), H301 Aquatic Acute 1, H400

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice	: First aider: Pay attention to self-protection!. Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person. In case of doubt or persistent symptoms, consult always a physician. Show this safety data sheet to the doctor in attendance. Treat symptomatically.
Inhalation	: Remove casualty to fresh air and keep warm and at rest. In case of doubt or persistent symptoms, consult always a physician.
Skin contact	: Remove contaminated clothing and shoes. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician.
Eyes contact	: Rinse immediately carefully and thoroughly with eye-bath or water. In case of doubt or persistent symptoms, consult always a physician.
Ingestion	: Rinse mouth thoroughly with water. Do not induce vomiting. In case of loss of consciousness, place the victim in the recovery position. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	: The following symptoms may occur: Cough. Dizziness. Dizziness. Headache.
Skin contact	: The following symptoms may occur: Redness.
Eyes contact	: The following symptoms may occur: Redness, pain.
Ingestion	: Harmful if swallowed. The following symptoms may occur: Sore throat. Nausea. Vomiting. Abdominal pain. Drowsiness. Unconsciousness.
Chronic symptoms	: May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : carbon dioxide (CO₂), powder, alcohol-resistant foam, water spray. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Not flammable. Heating will cause a rise in pressure with a risk of bursting.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂). nitrogen oxides (NO_x) and sulphur oxides. Hydrocarbons. Phosphorus oxides.

5.3. Advice for firefighters

Firefighting instructions : Evacuate area. Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Positive pressure self-contained breathing apparatus (SCBA) and structural fire-fighters protective clothing.

Other information : Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

For non-emergency personnel : Evacuate unnecessary personnel. Keep upwind. Provide adequate ventilation. Wear recommended personal protective equipment. Concerning personal protective equipment to use, see section 8. Do not breathe vapours. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Dam up the liquid spill. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Recover large spills by pumping (use an explosion proof or hand pump). Place in a suitable container for disposal in accordance with the waste regulations (see Section 13). This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Do not breathe vapours. Avoid contact with skin, eyes and clothing. Take any precaution to avoid mixing with Incompatible materials, Refer to Section 10 on Incompatible Materials. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Avoid release to the environment.

Hygiene measures : Keep good industrial hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10. Bund storage facilities to prevent soil and water pollution in the event of spillage.

Storage temperature : < 45 °C

Special rules on packaging : Tactile warning.

Packaging materials : Keep only in the original container.

7.3. Specific end use(s)

For further information see section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethylene glycol (107-21-1)		
EU	IOEL TWA	52 mg/m ³
EU	IOEL TWA [ppm]	20 ppm
EU	IOEL STEL	104 mg/m ³
EU	IOEL STEL [ppm]	40 ppm
EU	Remark	Possibility of significant uptake through the skin
Austria	MAK (OEL TWA)	26 mg/m ³
Austria	MAK (OEL TWA) [ppm]	10 ppm
Austria	MAK (OEL STEL)	52 mg/m ³
Austria	MAK (OEL STEL) [ppm]	20 ppm
Bulgaria	OEL TWA	52 mg/m ³
Bulgaria	OEL TWA [ppm]	20 ppm
Bulgaria	OEL STEL	104 mg/m ³
Bulgaria	OEL STEL [ppm]	40 ppm
Croatia	GVI (OEL TWA) [1]	52 mg/m ³
Croatia	GVI (OEL TWA) [2]	20 ppm
Croatia	KGVI (OEL STEL)	104 mg/m ³



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Croatia	KGVI (OEL STEL) [ppm]	40 ppm
Cyprus	OEL TWA	52 mg/m ³
Cyprus	OEL TWA [ppm]	20 ppm
Cyprus	OEL STEL	104 mg/m ³
Cyprus	OEL STEL [ppm]	40 ppm
Czech Republic	PEL (OEL TWA)	50 mg/m ³
Denmark	OEL TWA [1]	26 mg/m ³ 10 mg/m ³ (atomized)
Denmark	OEL TWA [2]	10 ppm
Estonia	OEL TWA	52 mg/m ³ (total concentration of aerosol and vapor)
Estonia	OEL TWA [ppm]	20 ppm (total concentration of aerosol and vapor)
Estonia	OEL STEL	104 mg/m ³ (total concentration of aerosol and vapor)
Estonia	OEL STEL [ppm]	40 ppm (total concentration of aerosol and vapor)
Finland	HTP (OEL TWA) [1]	50 mg/m ³
Finland	HTP (OEL TWA) [2]	20 ppm
Finland	HTP (OEL STEL)	100 mg/m ³
Finland	HTP (OEL STEL) [ppm]	40 ppm
France	VME (OEL TWA)	52 mg/m ³ (indicative limit-vapor)
France	VME (OEL TWA) [ppm]	20 ppm (indicative limit-vapor)
France	VLE (OEL C/STEL)	104 mg/m ³ (indicative limit-vapor)
France	VLE (OEL C/STEL) [ppm]	40 ppm (indicative limit-vapor)
Germany	Occupational exposure limit value (mg/m ³) (TRGS900)	26 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	Occupational exposure limit value (ppm) (TRGS900)	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Gibraltar	OEL TWA	52 mg/m ³
Gibraltar	OEL TWA [ppm]	20 ppm
Gibraltar	OEL STEL	104 mg/m ³
Gibraltar	OEL STEL [ppm]	40 ppm
Greece	OEL TWA	125 mg/m ³ (vapor)
Greece	OEL TWA [ppm]	50 ppm (vapor)
Greece	OEL STEL	125 mg/m ³ (vapor)
Greece	OEL STEL [ppm]	50 ppm (vapor)
Hungary	AK (OEL TWA)	52 mg/m ³
Hungary	CK (OEL STEL)	104 mg/m ³



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ethylene glycol (107-21-1)

Ireland	OEL TWA [1]	52 mg/m ³
Ireland	OEL TWA [2]	20 ppm
Ireland	OEL STEL	104 mg/m ³
Ireland	OEL STEL [ppm]	40 ppm
Italy	OEL TWA	52 mg/m ³
Italy	OEL TWA [ppm]	20 ppm
Italy	OEL STEL	104 mg/m ³
Italy	OEL STEL [ppm]	40 ppm
Latvia	OEL TWA	52 mg/m ³
Latvia	OEL TWA [ppm]	20 ppm
Lithuania	IPRV (OEL TWA)	25 mg/m ³ (aerosol and vapor)
Lithuania	IPRV (OEL TWA) [ppm]	10 ppm (aerosol and vapor)
Lithuania	TPRV (OEL STEL)	50 mg/m ³ (aerosol and vapor)
Lithuania	TPRV (OEL STEL) [ppm]	20 ppm (aerosol and vapor)
Luxembourg	OEL TWA	52 mg/m ³
Luxembourg	OEL TWA [ppm]	20 ppm
Luxembourg	OEL STEL	104 mg/m ³
Luxembourg	OEL STEL [ppm]	40 ppm
Malta	OEL TWA	52 mg/m ³
Malta	OEL TWA [ppm]	20 ppm
Malta	OEL STEL	104 mg/m ³
Malta	OEL STEL [ppm]	40 ppm
Netherlands	TGG-8u (OEL TWA)	52 mg/m ³ (fume) 10 mg/m ³ (droplets)
Netherlands	TGG-15min (OEL STEL)	104 mg/m ³
Poland	NDS (OEL TWA)	15 mg/m ³
Poland	NDSCh (OEL STEL)	50 mg/m ³
Portugal	OEL TWA	52 mg/m ³ (indicative limit value)
Portugal	OEL TWA [ppm]	20 ppm (indicative limit value)
Portugal	OEL STEL	104 mg/m ³ (indicative limit value)
Portugal	OEL STEL [ppm]	40 ppm (indicative limit value)
Portugal	OEL C	100 mg/m ³ (aerosol only)
Romania	OEL TWA	52 mg/m ³
Romania	OEL TWA [ppm]	20 ppm
Romania	OEL STEL	104 mg/m ³
Romania	OEL STEL [ppm]	40 ppm
Slovakia	NPHV (OEL TWA) [1]	52 mg/m ³
Slovakia	NPHV (OEL TWA) [2]	20 ppm



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Slovakia	NPHV (OEL C)	104 mg/m ³
Slovenia	OEL TWA	52 mg/m ³
Slovenia	OEL TWA [ppm]	20 ppm
Slovenia	OEL STEL	104 mg/m ³
Slovenia	OEL STEL [ppm]	40 ppm
Spain	VLA-ED (OEL TWA) [1]	52 mg/m ³ (indicative limit value)
Spain	VLA-ED (OEL TWA) [2]	20 ppm (indicative limit value)
Spain	VLA-EC (OEL STEL)	104 mg/m ³
Spain	VLA-EC (OEL STEL) [ppm]	40 ppm
Sweden	NGV (OEL TWA)	25 mg/m ³ (limit value applies to the combined concentration of vapor and aerosol-aerosol and vapor)
Sweden	NGV (OEL TWA) [ppm]	10 ppm (limit value applies to the combined concentration of vapor and aerosol-aerosol and vapor)
Sweden	KTV (OEL STEL)	104 mg/m ³ (limit value applies to the combined concentration of vapor and aerosol-aerosol and vapor)
Sweden	KTV (OEL STEL) [ppm]	40 ppm (limit value applies to the combined concentration of vapor and aerosol-aerosol and vapor)
United Kingdom	WEL TWA (OEL TWA) [1]	10 mg/m ³ (particulates) 52 mg/m ³ (vapour)
United Kingdom	WEL TWA (OEL TWA) [2]	20 ppm (vapour)
United Kingdom	WEL STEL (OEL STEL)	104 mg/m ³ (vapour) 30 mg/m ³ (calculated-particulate)
United Kingdom	WEL STEL (OEL STEL) [ppm]	40 ppm (vapour)
Norway	Grenseverdi (OEL TWA) [1]	52 mg/m ³ (total sum of gas and particulate matter (aerosol) of the substance)
Norway	Grenseverdi (OEL TWA) [2]	20 ppm (total sum of gas and particulate matter (aerosol) of the substance)
Norway	Korttidsverdi (OEL STEL)	104 mg/m ³ (total sum of gas and particulate matter (aerosol) of the substance)
Norway	Korttidsverdi (OEL STEL) [ppm]	40 ppm (total sum of gas and particulate matter (aerosol) of the substance)
Switzerland	MAK (OEL TWA) [1]	26 mg/m ³ (aerosol, vapour)
Switzerland	MAK (OEL TWA) [2]	10 ppm (aerosol, vapour)
Switzerland	KZGW (OEL STEL)	52 mg/m ³ (aerosol, vapour)
Switzerland	KZGW (OEL STEL) [ppm]	20 ppm (aerosol, vapour)
Australia	OES TWA [1]	10 mg/m ³ (particulate) 52 mg/m ³ (vapour)
Australia	OES TWA [2]	20 ppm (vapour)
Australia	OES STEL	104 mg/m ³ (vapour)

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ethylene glycol (107-21-1)		
Australia	OES STEL [ppm]	40 ppm (vapour)
Canada (Quebec)	Plafond (OEL C)	127 mg/m ³ (mist and vapour)
Canada (Quebec)	Plafond (OEL C) [ppm]	50 ppm (mist and vapour)
USA - ACGIH	ACGIH OEL TWA [ppm]	25 ppm (vapor fraction)
USA - ACGIH	ACGIH OEL STEL	10 mg/m ³ (inhalable particulate matter, aerosol only)
USA - ACGIH	ACGIH OEL STEL [ppm]	50 ppm (vapor fraction)

sodium nitrite (7632-00-0)		
Lithuania	NRV (OEL C)	0,1 mg/m ³

ethylene glycol (107-21-1)	
DNEL/DMEL (workers)	
Long-term - systemic effects, dermal	106 mg/kg bw/day
Long-term - local effects, inhalation	35 mg/m ³
DNEL/DMEL (general population)	
Long-term - systemic effects, dermal	53 mg/kg bw/day
Long-term - local effects, inhalation	7 mg/m ³
PNEC (water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC aqua (intermittent, marine water)	10 mg/l
PNEC (sediment)	
PNEC sediment (freshwater)	37 mg/kg dwt
PNEC sediment (marine water)	3,7 mg/kg dwt
PNEC (soil)	
PNEC soil	1,53 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	199,5 mg/l

Additional information : Recommended monitoring procedures :. Personal air monitoring. Room air monitoring

8.2. Exposure controls

Engineering measure(s) : Provide adequate ventilation. Organisational measures to prevent /limit releases, dispersion and exposure. See Section 7 for information on safe handling.

Personal protective equipment : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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Hand protection	: Wear chemically resistant gloves (tested to EN374) . Suitable material: Butyl rubber. Thickness : 0,6 - 0,8 mm. Breakthrough time : \geq 8h. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Eye protection	: Use suitable eye protection (EN166): tightly fitting safety goggles
Body protection	: Wear suitable protective clothing. Wear suitable coveralls to prevent exposure to the skin
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). full face mask (DIN EN 136). Filter type: A/P (EN 141). The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. (EN 137)
Thermal hazard protection	: Not required for normal conditions of use. Use dedicated equipment.
Environmental exposure controls	: Avoid release to the environment. Comply with applicable Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear. Liquid.
Colour	: Blue.
Odour	: Sweet.
Odour threshold	: No data available
pH	: 10 – 11
Relative evaporation rate (butylacetate=1)	: No data available
Melting / freezing point	: No data available
Freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: 118 °C (ASTM D92)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable,liquid
Vapour pressure	: No data available
Vapour density	: > 1 (Air = 1.0)
Relative density	: No data available
Density	: 1,08 g/cm ³ (15,6 °C)
Solubility	: Organic solvents : immiscible. Water: completely miscible
Partition coefficient n-octanol/water	: No data available
Kinematic viscosity	: No data available
Dynamic viscosity	: No data available

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Explosive properties	: Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Explosive limits	: No data available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : Negligible

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal conditions. Reference to other sections: 10.4 & 10.5.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. See Section 7 for information on safe handling.

10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Strong acids. See Section 7 for information on safe handling.

10.6. Hazardous decomposition products

Reference to other sections 5.2.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity : Harmful if swallowed.

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ATE CLP (oral)	821,256 mg/kg bodyweight
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LD50/oral/rat	< 2000 mg/kg (LDLo: > 786 mg/kg, human)
LD50/dermal/rat	10600 mg/kg
LD50/dermal/rabbit	9530 mg/kg
LC50/inhalation/4h/rat	> 2,5 mg/l/6h
LDLo, human	398 mg/kg (Sudebno-Meditsinskaya Ekspertiza. Forensic Medical Examination. Vol. 26(2), Pg. 48, 1983.)

sodium nitrite (7632-00-0)	
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LD50/oral/rat	85 mg/kg
LC50/inhalation/4h/rat	5,5 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 10 – 11

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 10 – 11

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

ethylene glycol (107-21-1)	
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NOAEL (chronic, oral, animal/male, 2 years)	1000 mg/kg bodyweight
NOAEL (chronic, oral, animal/female, 2 years)	1500 mg/kg bodyweight

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

ethylene glycol (107-21-1)	
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NOAEL (oral, rat, 90 days)	200 mg/kg bodyweight/day OECD Guideline 407
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Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

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Kinematic viscosity	No data available
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Other adverse effects : May cause damage to organs (kidneys) through prolonged or repeated exposure (Oral).

Other information : Symptoms related to the physical, chemical and toxicological characteristics. For further information see section 4.

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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

11.2.2 Other information

Other adverse effects

: May cause damage to organs (kidneys) through prolonged or repeated exposure (Oral).

Other information

: Symptoms related to the physical, chemical and toxicological characteristics, For further information see section 4

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties

: Not classified. Ecological injuries are not known or expected under normal use.

Hazardous to the aquatic environment, short-term (acute)

: Not classified

Hazardous to the aquatic environment, long-term (chronic)

: Not classified

ethylene glycol (107-21-1)

LC50 - Fish [1]	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
LC50 - Fish [2]	54700 (14 – 18) ml/l (Exposure time: 96 h - Fathead minnow)
EC50 - Crustacea [1]	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	41000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 96h - Algae [1]	6500 – 13000 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [2]	6500 – 13000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	15380 mg/l @ 7d Pimephales promelas

sodium nitrite (7632-00-0)

LC50 - Fish [1]	0,19 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
LC50 - Fish [2]	0,092 – 0,13 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

12.2. Persistence and degradability

Pump Armor

Persistence and degradability	expected : Not readily biodegradable.
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ethylene glycol (107-21-1)	
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Persistence and degradability	Readily biodegradable.
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sodium nitrite (7632-00-0)	
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Persistence and degradability	inorganic.
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12.3. Bioaccumulative potential

Pump Armor	
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Partition coefficient n-octanol/water	No data available
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Bioaccumulative potential	No additional information available.
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ethylene glycol (107-21-1)	
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Partition coefficient n-octanol/water	-1,36
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Bioaccumulative potential	Does not bioaccumulate.
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sodium nitrite (7632-00-0)	
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Partition coefficient n-octanol/water	-3,7 (at 25 °C)
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Bioaccumulative potential	inorganic. Bioaccumulation is not expected to occur.
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12.4. Mobility in soil

Pump Armor	
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Mobility in soil	No data available
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12.5. Results of PBT and vPvB assessment

Pump Armor	
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Results of PBT assessment	No data available
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Component	
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ethylene glycol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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12.7. Other adverse effects

Other adverse effects : No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Avoid release to the environment. Dispose of empty containers and wastes safely. See Section 7 for information on safe handling. Refer to manufacturer/supplier for information on recovery/recycling. Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations. Handle contaminated packages in the same way as the substance itself. Dispose of contaminated materials in accordance with current regulations.

European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC) : This material and its container must be disposed of as hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Special precautions for user : No data available

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

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- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Code: IBC : No data available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : Negligible

15.1.2. National regulations

France

No ICPE	Installations classées Désignation de la rubrique	Code Régime	Rayon
na	Not Applicable	na	na

Germany

Regulatory reference : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezwaarlijkheid : B (4) - Weinig schadelijk voor in het water levende organismen

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

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SZW-lijst van reprotoxische stoffen – : None of the components are listed
Ontwikkeling

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out
ethylene glycol

SECTION 16: Other information

Indication of changes:

3.2	REACH registration No	Modified	ethanediol; ethylene glycol
8.1	DNEL-/PNEC-values	Added	ethanediol; ethylene glycol

Abbreviations and acronyms:

	ABM = Algemene beoordelingsmethodiek
	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
	ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
	CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC
	IATA = International Air Transport Association
	IMDG = International Maritime Dangerous Goods Code
	LEL = Lower Explosive Limit/Lower Explosion Limit
	UEL = Upper Explosion Limit/Upper Explosive Limit
	REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	BTT = Breakthrough time (maximum wearing time)
	DMEL = Derived Minimal Effect level
	DNEL = Derived No Effect Level
	EC50 = Median Effective Concentration
	EL50 = Median effective level
	ErC50 = EC50 in terms of reduction of growth rate
	ErL50 = EL50 in terms of reduction of growth rate
	EWC = European waste catalogue
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	LL50 = Median lethal level
	NA = Not applicable
	NOEC = No observed effect concentration
	NOEL: no-observed-effect level
	NOELR = No observed effect loading rate
	NOAEC = No observed adverse effect concentration
	NOAEL = No observed adverse effect level
	N.O.S. = Not Otherwise Specified
	OEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
	PNEC = Predicted No Effect Concentration

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	Quantitative structure-activity relationship (QSAR)
	STOT = Specific Target Organ Toxicity
	TWA = time weighted average
	VOC = Volatile organic compounds
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

Sources of key data used to compile the : ECHA (European Chemicals Agency), supplier SDS, Loli, INCHEM2. datasheet

Training advice : Training staff on good practice.

Other information : Classification - Assessment method: CLP Calculation method (Article 9).
Physicochemical hazard assessment: Information given is based on tests on the mixture itself.

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
Ox. Sol. 3	Oxidising Solids, Category 3
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

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