METAL BRITE

Wilhelmsen Ships Service AS* Central Warehouse

Part Number: **571661**
Version No: **22.23**
Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Initial Date: **24/03/2018**
Revision Date: **19/06/2024**
Print Date: **05/08/2026**
L.REACH.HRV.EN

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

1.1. Product Identifier

Product name	METAL BRITE
Chemical Name	Not Applicable
Synonyms	Product Part Number: 571661 (25 liter)
Proper shipping name	PHOSPHORIC ACID, SOLUTION
Chemical formula	Not Applicable
Other means of identification	571661, 778929, CN571661 | UFI: KN62-PNAC-D10X-VHPD

1.2. Relevant identified uses of the substance or mixture and uses advised against

Chemical Product Category	PC35 | Washing and cleaning products
Sectors of Use	SU3 | Industrial uses
Relevant identified uses	Cleaning agent
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or importer of the safety data sheet

Manufacturer/Supplier	**Wilhelmsen Ships Service AS* Central Warehouse**	**Outback (M)SDS portal: https://jr.chemwatch.net/outb/account/autologin?login=wilhelmsen**
Address	Willem Barentszstraat 50 Rotterdam 3165AB Netherlands	--------- Use our Outback portal to obtain our (M)SDSs in other languages and/or format. --------- For questions relating to our SDSs, please use Email: WSS.GLOBAL.SDSINFO@wilhelmsen.com --------- Norway
Telephone	+31 10 4877 777	Not Available
Fax	Not Available	Not Available
Website	https://www.wilhelmsen.com/	https://www.wilhelmsen.com
Email	wss.rotterdam@wilhelmsen.com	wss.global.sdsinfo@wilhelmsen.com

1.4. Emergency telephone number

Association / Organisation	**Croatian Institute of Public Health, Division for Toxicology**	**Dutch nat. poison centre**	**24hrs - Chemwatch**
Emergency telephone number(s)	**+3851 2348 342**	**+ 31 88 7558561**	**+31-10-4877700**
Other emergency telephone number(s)	**Not Available**	**+ 31 10 4877700**	**+31-10-4877700**

Association / Organisation	**CHEMWATCH EMERGENCY RESPONSE (24/7)**
Emergency telephone number(s)	**+61 3 9573 3188 (ID#: 9-222055)**
Other emergency telephone number(s)	**Not Available**

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SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1]	H290 - Corrosive to Metals Category 1, H314 - Skin Corrosion/Irritation Category 1B
Legend:	***1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI***

2.2. Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P234	Keep only in original packaging.

Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Material contains phosphoric acid.

2.3. Other hazards

2-(2-butoksyethoxy)ethanol	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

Continued...

This substance/mixture does not meet the criteria for classification as Persistent, Bioaccumulative, and Toxic (PBT) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as very Persistent and very Bioaccumulative (vPvB) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as Persistent, Mobile and Toxic (PMT) in accordance with Commission Delegated Regulation (EU) 2023/707.

This substance/mixture does not meet the criteria for classification as very Persistent and very Mobile (vPvM) in accordance with Commission Delegated Regulation (EU) 2023/707.

The substance/mixture does not contain components considered to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, nor is it included in the list established under REACH Article 59(1), at concentrations equal to or greater than 0.1% (w/w).

No further product hazard information.

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	SCL / M-Factor	Nanoform Particle Characteristics
1. 7664-38-2 2.231-633-2 3.015-011-00-6 4.None	10-30	phosphoric acid *	Skin Corrosion/Irritation Category 1B; H314 [2]	Skin Corr. 1B; H314: C ≥ 25 % | Skin Irrit. 2; H315: 10 % ≤ C < 25 % | Eye Irrit. 2; H319: 10 % ≤ C < 25 % Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not Available
1. 112-34-5 2.203-961-6 3.603-096-00-8 4.Not Available	1-5	2-(2-butoksyethoxy)ethanol *	Serious Eye Damage/Eye Irritation Category 2; H319 [1]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not Available

Legend:	***1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties***

SECTION 4 First aid measures

4.1. Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Immediately hold eyelids apart and flush the eye continuously with running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▸ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▸ Quickly remove all contaminated clothing, including footwear. ▸ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▸ Transport to hospital, or doctor.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay.
Ingestion	▸ **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.** ▸ For advice, contact a Poisons Information Centre or a doctor.

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- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

- **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

for phosphate salts intoxication:

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
- Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhoea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the faeces with the diarrhoea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity.
- Treatment should take into consideration both anionic and cation portion of the molecule.
- All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcaemia, so calcium levels should be monitored.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- **DO NOT** attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT** use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 Firefighting measures

5.1. Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

5.3. Advice for firefighters

Fire Fighting	- Alert Fire Brigade and tell them location and nature of hazard. - Wear breathing apparatus plus protective gloves in the event of a fire. - Prevent, by any means available, spillage from entering drains or water courses. - Use fire fighting procedures suitable for surrounding area. - **DO NOT** approach containers suspected to be hot.

Continued...

	‣ Cool fire exposed containers with water spray from a protected location. ‣ If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	‣ Non combustible. ‣ Not considered to be a significant fire risk. ‣ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. ‣ Heating may cause expansion or decomposition leading to violent rupture of containers. ‣ May emit corrosive, poisonous fumes. May emit acrid smoke. Decomposition may produce toxic fumes of: , phosphorus oxides (POx) May emit poisonous fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	Environmental hazard - contain spillage. ‣ Clean up all spills immediately. ‣ Avoid breathing vapours and contact with skin and eyes. ‣ Control personal contact with the substance, by using protective equipment. ‣ Contain and absorb spill with sand, earth, inert material or vermiculite. ‣ Wipe up. ‣ Place in a suitable, labelled container for waste disposal.
Major Spills	Environmental hazard - contain spillage. Chemical Class:acidic compounds, inorganic For release onto land: recommended sorbents listed in order of priority.

SORBENT TYPE	RANK	APPLICATION	COLLECTION	LIMITATIONS
LAND SPILL - SMALL				
foamed glass - pillows	1	throw	pitchfork	R, P, DGC, RT
expanded mineral - particulate	2	shovel	shovel	R, I, W, P, DGC
foamed glass - particulate	2	shovel	shovel	R, W, P, DGC
LAND SPILL - MEDIUM				
expanded mineral -particulate	1	blower	skiploader	R, I, W, P, DGC
foamed glass- particulate	2	blower	skiploader	R, W, P, DGC
foamed glass - particulate	3	throw	skiploader	R, W, P, DGC

Legend
DGC: Not effective where ground cover is dense
R; Not reusable
I: Not incinerable
P: Effectiveness reduced when rainy
RT:Not effective where terrain is rugged
SS: Not for use within environmentally sensitive sites
W: Effectiveness reduced when windy
Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;
R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Safe handling	‣ Avoid skin contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs. ‣ Use in a well-ventilated area. ‣ Prevent concentration in hollows and sumps. ‣ **DO NOT** enter confined spaces until atmosphere has been checked. ‣ **DO NOT** allow material to come in direct contact with human skin or eyes. ‣ **DO NOT** allow material to come in contact with exposed food or food contact surfaces.

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Fire and explosion protection	See section 5
Other information	‣ Store in original containers. ‣ Keep containers securely sealed. ‣ Store in a cool, dry, well-ventilated area. ‣ Store away from incompatible materials and foodstuff containers. ‣ Protect containers against physical damage and check regularly for leaks. ‣ Observe manufacturer's storage and handling recommendations contained within this SDS.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	‣ **DO NOT** use aluminium or galvanised containers ‣ Lined metal can, lined metal pail/ can. ‣ Plastic pail. ‣ Polyliner drum. ‣ Packing as recommended by manufacturer. ‣ Check all containers are clearly labelled and free from leaks. For low viscosity materials ‣ Drums and jerricans must be of the non-removable head type. ‣ Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): ‣ Removable head packaging; ‣ Cans with friction closures and ‣ low pressure tubes and cartridges may be used. - Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages *. - In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *. - * unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic. All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.
Storage incompatibility	Phosphoric acid: ‣ is a medium-strong acid which produces violent reaction with bases ‣ may produce violent react when water is added to the concentrated form ‣ reacts violently with solutions containing ammonia or bleach, azo compounds, epoxides and other polymerisable compounds ‣ reacts, possibly violently with amines, aldehydes, alkanolamines, alcohols, alkylene oxides, amides, ammonia, ammonia hydroxide, calcium oxide, cyanides, epichlorohydrin, esters, halogenated organics, isocyanates, ketones, oleum, organic anhydrides, sodium tetraborate, sulfides, sulfuric acid, strong oxidisers, vinyl acetate ‣ forms explosive mixtures with nitromethane ‣ at elevated temperatures attacks many metals producing hydrogen gas ‣ at room temperature does not attack stainless steel, copper or its alloys ‣ attacks glass, ceramics, and some plastics, rubber and coatings ‣ Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0. ‣ Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces. ‣ The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat. ‣ The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid. ‣ Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. ‣ Reacts vigorously with alkalis ‣ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air. ‣ Phosphates are incompatible with oxidising and reducing agents. ‣ Phosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. ‣ Partial oxidation of phosphates by oxidizing agents may result in the release of toxic phosphorus oxides.
Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

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+	x	o	x	+	+	+

X — *Must not be stored together*
0 — *May be stored together with specific preventions*
\+ — *May be stored together*

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
phosphoric acid	Inhalation 10.7 mg/m³ (Systemic, Chronic) Inhalation 1 mg/m³ (Local, Chronic) Inhalation 2 mg/m³ (Local, Acute) ***Inhalation 4.57 mg/m³ (Systemic, Chronic) **** ***Oral 0.1 mg/kg bw/day (Systemic, Chronic) **** ***Inhalation 0.36 mg/m³ (Local, Chronic) ****	Not Available
2-(2-butoksyethoxy)ethanol	Inhalation 67.5 mg/m³ (Local, Chronic) Inhalation 101.2 mg/m³ (Local, Acute) ***Oral 6.25 mg/kg bw/day (Systemic, Chronic) ****	1.1 mg/L (Water (Fresh)) 11 mg/L (Water - Intermittent release) 0.11 mg/L (Water (Marine)) 4.4 mg/kg sediment dw (Sediment (Fresh Water)) 0.44 mg/kg sediment dw (Sediment (Marine)) 0.32 mg/kg soil dw (Soil) 56 mg/kg food (Oral)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	phosphoric acid	Ortophosphoric acid	1 mg/m3	2 mg/m3	Not Available	Not Available
Croatia Occupational Exposure Limits (Croatian)	phosphoric acid	fosforna kiselina; Ortofosforna	1 mg/m3	2 mg/m3	Not Available	C: nagrizajuće EU*
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	2-(2-butoksyethoxy)ethanol	2-(2-Butoxyethoxy) ethanol	10 ppm / 67.5 mg/m3	101.2 mg/m3 / 15 ppm	Not Available	Not Available
Croatia Occupational Exposure Limits (Croatian)	2-(2-butoksyethoxy)ethanol	2-(2-Butoksietoksi)etanol; Dietilen-glikol monobutil-eter	10 ppm / 67.5 mg/m3	101.2 mg/m3 / 15 ppm	Not Available	EU** Xi: nadražujuće

MATERIAL DATA

The saturated vapour concentration of phosphoric acid exceeds the TLV. The TLV-TWA is based by analogy from comparable experience and data for sulfuric acid. Exposure at or below this limit is thought to prevent throat irritation amongst unacclimatised workers.
Fumes of phosphorus pentoxide at concentrations between 0.8 and 5.4 mg/m3 were reported to be noticeable but not uncomfortable whilst concentrations between 3.6 and 11.3 mg/m3 produced coughing in unacclimatised workers but were tolerable. Concentrations of 100 mg/m3 were unbearable except in inured workers.

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if

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	designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.
8.2.2. Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Chemical goggles. ‣ Full face shield may be required for supplementary but never for primary protection of eyes. ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber ‣ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ Eyewash unit. ‣ Barrier cream. ‣ Skin cleansing cream.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
METAL BRITE

Material	CPI
NAT+NEOPR+NITRILE	A
NATURAL RUBBER	A
NATURAL+NEOPRENE	A
NEOPRENE	A
NEOPRENE/NATURAL	A
NITRILE	A
NITRILE+PVC	A
PE	A
PVC	A
SARANEX-23	A

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Ansell Glove Selection

Glove — *In order of recommendation*
AlphaTec® Solvex® 37-675
AlphaTec® Solvex® 37-185
AlphaTec® 58-008
AlphaTec® 58-530B
AlphaTec® 58-530W
AlphaTec® 58-735
AlphaTec® 79-700

Respiratory protection

Full face respirator with supplied air.

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	B-AUS P2	-	B-PAPR-AUS / Class 1 P2
up to 50 x ES	-	B-AUS / Class 1 P2	-
up to 100 x ES	-	B-2 P2	B-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Continued...

AlphaTec® 38-612
AlphaTec® 53-001
AlphaTec® 58-005

The suggested gloves for use should be confirmed with the glove supplier.

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear, colourless to green

Physical state	Liquid	**Relative density (Water = 1)**	1.150 -1.180
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	<0-760	**Viscosity (mm2/s)**	Not Available
Initial boiling point and boiling range (°C)	>100-760	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available BuAC = 1	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Miscible	**pH as a solution (1%)**	1.5-2.5
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available
Heat of Combustion (kJ/g)	Not Available	**Ignition Distance (cm)**	Not Available
Flame Height (cm)	Not Available	**Flame Duration (s)**	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	**Enclosed Space Ignition Deflagration Density (g/m3)**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	‣ Unstable in the presence of incompatible materials. ‣ Product is considered stable. ‣ Hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

Continued...

SECTION 11 Toxicological information

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

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	Based on available data, the classification criteria are not met.
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	Based on available data, the classification criteria are not met.
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

Inhaled	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severely toxic effects. Relatively small amounts absorbed from the lungs may prove fatal. Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system. Strong evidence exists that exposure to the material may produce serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by inhalation. Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema. Inhalation of phosphoric acid vapour or mist may cause choking, coughing, headache, weakness and dizziness. Prolonged or repeated inhalation of vapour or mist may cause pulmonary oedema (lung damage) and cyanosis Exposure to high concentrations causes bronchitis and is characterised by the onset of haemorrhagic pulmonary oedema.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Strong evidence exists that exposure to the material may produce serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by swallowing. The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum. Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Oedema of the epiglottis may produce respiratory distress and possibly, asphyxia. Nausea, vomiting, diarrhoea and a pronounced thirst may occur. More severe exposures may produce a vomitus containing fresh or dark blood and large shreds of mucosa. Shock, with marked hypotension, weak and rapid pulse, shallow respiration and clammy skin may be symptomatic of the exposure. Circulatory collapse may, if left untreated, result in renal failure. Ingestion of large quantity of phosphoric acid may cause severe abdominal pains, thirst, acidaemia, difficult breathing, convulsions, collapse, shock and death. Although less hazardous than nitric and sulfuric acid, phosphoric acid has equal corrosive action upon ingestion. Death of an individual 19 days after ingestion of phosphoric acid was due to recurrent internal haemorrhage. Necrosis of the upper and lower digestive tract and pancreas was evident at autopsy. Phosphates are slowly and incompletely absorbed from the gastrointestinal tract and are unlikely (other than in abuse) to produce the systemic effects which occur when introduced by other routes. Such effects include vomiting, lethargy, fever, diarrhoea, falls in blood pressure, slow pulse, cyanosis, carpal spasm, coma and tetany. These effects result following sequestration of blood calcium. Ingestion of large amounts of phosphate salts (over 1 gm for an adult) may produce osmotic catharsis resulting in diarrhoea and probably, abdominal cramp. Large doses (4-8 gm) will almost certainly produce these effects in most individuals. Most of the ingested salt will be excreted in the faeces of healthy individuals without producing systemic toxicity. Doses in excess of 10 gm may produce systemic toxicity. Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Strong evidence exists that exposure to the material may produce serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by skin contact.

Continued...

	Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. Irritation of the eyes may produce a heavy secretion of tears (lachrymation). Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possible irreversible damage. The appearance of the burn may not be apparent for several weeks after the initial contact. The cornea may ultimately become deeply vascularised and opaque resulting in blindness.
Chronic	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis. The impact of inhaled acidic agents on the respiratory tract depends upon a number of interrelated factors. These include physicochemical characteristics, e.g., gas versus aerosol; particle size (small particles can penetrate deeper into the lung); water solubility (more soluble agents are more likely to be removed in the nose and mouth). Given the general lack of information on the particle size of aerosols involved in occupational exposures to acids, it is difficult to identify their principal deposition site within the respiratory tract. Dogs given daily doses of sodium phosphate dibasic for 9-22 weeks showed calcium deposits in the kidneys (nephrocalcinosis) with disseminated atrophy of the proximal tubule. Animals fed on sodium phosphate dibasic and potassium dihydrogen phosphate, in both short- and long-term studies, showed increased bone porosity; hyperparathyroidism and soft tissue calcification were also evident.

METAL BRITE	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
phosphoric acid	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >1260 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
	Inhalation (Rat) LC50: 0.026 mg/L4h[2]	Skin: adverse effect observed (corrosive)[1]
	Oral (Rat) LD50: 1530 mg/kg[2]	
2-(2-butoksyethoxy)ethanol	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 4120 mg/kg[2]	Eye (Rodent - rabbit): 20mg - Severe
	Oral (Rat) LD50: 5660 mg/kg[2]	Eye (Rodent - rabbit): 20mg/24H - Moderate
		Eye: adverse effect observed (irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]

Legend:	***1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances***

PHOSPHORIC ACID	phosphoric acid (85%) No significant acute toxicological data identified in literature search. The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.
2-(2-BUTOKSYETHOXY)ETHANOL	For diethylene glycol monoalkyl ethers and their acetates: This category includes diethylene glycol ethyl ether (DGEE), diethylene glycol propyl ether (DGPE) diethylene glycol butyl ether (DGBE) and diethylene glycol hexyl ether (DGHE) and their acetates. **Acute toxicity:** There are adequate oral, inhalation and/or dermal toxicity studies on the category members. Oral LD50 values in rats for all category members are all > 3000 mg/kg bw, with values generally decreasing with increasing molecular weight. Four to eight hour acute inhalation toxicity studies were conducted for all category members except DGPE in rats at the highest vapour concentrations achievable. No lethality was observed for any of these materials under these conditions. Dermal LD50 values in rabbits range from 2000 mg/kg bw (DGHE) to 15000 mg/kg bw (DGEEA). Signs of acute toxicity in rodents are consistent with non-specific CNS depression typical of organic solvents in general. All category members are slightly irritating to skin and slightly to moderately irritating to eyes (with the exception of DGHE, which is highly irritating to eyes).
METAL BRITE & PHOSPHORIC ACID	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe

Continued...

	bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. for acid mists, aerosols, vapours Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events in vivo in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from <5 to > 7 and normally averages 6.2. Furthermore, exposures to low pH in vivo differ from exposures ***in vitro*** in that, ***in vivo***, only a portion of the cell surface is subjected to the adverse conditions, so that perturbation of intracellular homeostasis may be maintained more readily than in vitro.
PHOSPHORIC ACID & 2-(2-BUTOKSYETHOXY)ETHANOL	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✗
Serious Eye Damage/Irritation	✗	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ ***– Data either not available or does not fill the criteria for classification***
✓ ***– Data available to make classification***

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

METAL BRITE

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

phosphoric acid

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	77.9mg/l	2
EC50	48h	Crustacea	>100mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	<7.5mg/l	2
LC50	96h	Fish	67.94-113.76mg/L	4

2-(2-butoksyethoxy)ethanol

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	1101mg/l	2
EC50	48h	Crustacea	>100mg/l	1
NOEC(ECx)	96h	Algae or other aquatic plants	>=100mg/l	1
EC50	96h	Algae or other aquatic plants	>100mg/l	1
LC50	96h	Fish	1300mg/l	2

Legend: ***Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data***

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.
Harmful to aquatic organisms.
Ecotoxicity:

Continued...

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5
For Phosphate: The principal problems of phosphate contamination of the environment relates to eutrophication processes in lakes and ponds. Phosphorus is an essential plant nutrient and is usually the limiting nutrient for blue-green algae.
Aquatic Fate: Lakes overloaded with phosphates is the primary catalyst for the rapid growth of algae in surface waters. Planktonic algae cause turbidity and flotation films. Shore algae cause ugly muddying, films and damage to reeds. Decay of these algae causes oxygen depletion in the deep water and shallow water near the shore. The process is self-perpetuating because an anoxic condition at the sediment/water interface causes the release of more adsorbed phosphates from the sediment.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
phosphoric acid	HIGH	HIGH
2-(2-butoksyethoxy)ethanol	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
phosphoric acid	LOW (LogKOW = -0.77)
2-(2-butoksyethoxy)ethanol	LOW (BCF = 0.46)

12.4. Mobility in soil

Ingredient	Mobility
phosphoric acid	HIGH (Log KOC = 1)
2-(2-butoksyethoxy)ethanol	LOW (Log KOC = 10)

12.5. Results of PBT and vPvB assessment

	P	B	T	PBT criteria fulfilled?	vP	vB	vPvB criteria fulfilled?
METAL BRITE	✗	✗	✗	No	✗	✗	No
phosphoric acid	No data available	No data available	No data available	No	No data available	No data available	No
2-(2-butoksyethoxy)ethanol	No data available	No data available	No data available	No	No data available	No data available	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal	‣ Containers may still present a chemical hazard/ danger when empty. ‣ Return to supplier for reuse/ recycling if possible. Otherwise: ‣ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ‣ Where possible retain label warnings and SDS and observe all notices pertaining to the product. ‣ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ‣ It may be necessary to collect all wash water for treatment before disposal. ‣ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ‣ Where in doubt contact the responsible authority. ‣ Recycle wherever possible. ‣ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ‣ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). ‣ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.
Waste treatment options	Not Available
Sewage disposal options	Not Available

Continued...

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO

Land transport (ADR-RID)

14.1. **UN number or ID number**	1805
14.2. **UN proper shipping name**	PHOSPHORIC ACID, SOLUTION
14.3. **Transport hazard class(es)**	Class: 8 Subsidiary Hazard: Not Applicable
14.4. **Packing group**	III
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): 80 Classification code: C1 Hazard Label: 8 Special provisions: Not Applicable Limited quantity: 5 L Transport Category: 3 Tunnel Restriction Code: E

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1805
14.2. **UN proper shipping name**	Phosphoric acid, solution
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 8 ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: 8L
14.4. **Packing group**	III
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: A3 A803 Cargo Only Packing Instructions: 856 Cargo Only Maximum Qty / Pack: 60 L Passenger and Cargo Packing Instructions: 852 Passenger and Cargo Maximum Qty / Pack: 5 L Passenger and Cargo Limited Quantity Packing Instructions: Y841 Passenger and Cargo Limited Maximum Qty / Pack: 1 L

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	1805
14.2. **UN proper shipping name**	PHOSPHORIC ACID SOLUTION
14.3. **Transport hazard class(es)**	IMDG Class: 8 IMDG Subsidiary Hazard: Not Applicable
14.4. **Packing group**	III

Continued...

14.5 **Environmental hazard**	Not Applicable
14.6 **Special precautions for user**	EMS Number: F-A, S-B Special provisions: 223 Limited Quantities: 5 L

Inland waterways transport (ADN)

14.1. **UN number**	1805
14.2 **UN proper shipping name**	PHOSPHORIC ACID, SOLUTION
14.3 **Transport hazard class(es)**	8 Not Applicable
14.4. **Packing group**	III
14.5 **Environmental hazard**	Not Applicable
14.6 **Special precautions for user**	Classification code: C1 Special provisions: Not Applicable Limited quantity: 5 L Equipment required: PP, EP Fire cones number: 0

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
phosphoric acid	Not Applicable
2-(2-butoksyethoxy)ethanol	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
phosphoric acid	Not Applicable
2-(2-butoksyethoxy)ethanol	Not Applicable

SECTION 15 Regulatory information

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

phosphoric acid is found on the following regulatory lists

Croatia Occupational Exposure Limits (Croatian)
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)
Europe EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI (ATP22)

2-(2-butoksyethoxy)ethanol is found on the following regulatory lists

Croatia Occupational Exposure Limits (Croatian)
EU Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products - Annex III - List of Substances which cosmetic products must not contain except subject to the restrictions laid down
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)
EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Europe EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI (ATP22)

Continued...

Additional Regulatory Information

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	Not Available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (phosphoric acid; 2-(2-butoksyethoxy)ethanol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory ‘Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
UAE - Control List (Banned/Restricted Substances)	No (2-(2-butoksyethoxy)ethanol)
Legend:	***Yes = All CAS declared ingredients are on the inventory*** ***No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.***

SECTION 16 Other information

Revision Date	19/06/2024
Initial Date	24/03/2018

CONTACT POINT

- For quotations, please find your local Customer Service team via https://www.wilhelmsen.com/contacts-locations/ or email us at wss.info@wilhelmsen.com. - Responsible for Safety Data Sheet: Wilhelmsen Ships Service AS - Prepared by: Compliance Manager - Email: wss.global.sdsinfo@wilhelmsen.com - Telephone: +47 67 58 40 00

Full text Risk and Hazard codes

H319	Causes serious eye irritation.

SDS Version Summary

Version	Date of Update	Sections Updated
21.23	19/06/2024	Toxicological information - Acute Health (skin), Hazards identification - Classification, Composition / information on ingredients - Ingredients

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

Continued...

EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Definitions and abbreviations

- PC—TWA: Permissible Concentration-Time Weighted Average
- PC—STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit。
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code

- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Corrosive to Metals Category 1, H290	Expert judgement
Skin Corrosion/Irritation Category 1B, H314	Expert judgement

Notes

“This composition meets the criteria for not being harmful to the marine environment according to MARPOL Annex V and may be discharged into the sea after being used to clean cargo holds and external surfaces on ships.”
The American EPA by means of the "Vessel General Permit For Discharges Incidental To The Normal Operations Of Commercial Vessels And Large Recreational Vessels (VGP)" does not allow the discharge of deck wash water containing phosphates into American waters. Amongst WSS products impacted by the regulations are Metal Brite and Metal Brite HD.

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Continued...

end of SDS