

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name or designation of the mixture	S-1000
Registration number	-
Synonyms	None.
Product code	900-0006
Issue date	28-June-2013
Version number	01
Revision date	28-June-2013
Supersedes date	07-December-2011

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

Identified uses	Industrial Leak Sealant.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier	Team Industrial Services, Inc.
Address	Postbus 37 4380 AA Vlissingen 3237 The Netherlands
Telephone	+31 (0) 118 48 58 00
Fax	+31 (0) 118 48 58 86
e-mail	Not available.
Contact person	Not available.

1.4. Emergency telephone number +(61)-290372994, +1 703-527-3887

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification Repr. Cat. 2;R60-61, C;R34, N;R51/53

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended**Health hazards**

Skin corrosion/irritation	Category 1B	H314 - Causes severe skin burns and eye damage.
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Reproductive toxicity (fertility, the unborn child)	Category 1B	H360FD - May damage fertility. May damage the unborn child.
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Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.
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Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	May impair fertility. May cause harm to the unborn child. Causes burns. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	May cause central nervous system effects.
Main symptoms	May cause redness and pain. Exposed may experience eye tearing, redness, and discomfort. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Overexposure to mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended**Contains:** Borax decahydrate, Phosphoric acid**Hazard pictograms****Signal word** Danger
Hazard statements H314 - Causes severe skin burns and eye damage.
 H360FD - May damage fertility. May damage the unborn child.
 H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements**Prevention** P201 - Obtain special instructions before use.
Response P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
Storage P405 - Store locked up.**Disposal** P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.**Supplemental label information** Not applicable.**2.3. Other hazards** Not a PBT or vPvB substance or mixture.**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Borax decahydrate	25 - 50	1303-96-4 215-540-4	-	005-011-01-1	
Classification:		DSD: Repr. Cat. 2;R60-61 CLP: Repr. 1B;H360FD			
Water	25-50	7732-18-5 231-791-2	-	-	
Classification:		DSD: - CLP: -			
Phosphoric acid	10-25	7664-38-2 231-633-2	-	015-011-00-6	#
Classification:		DSD: C;R34 CLP: Skin Corr. 1B;H314			
Aluminium oxide	5 - 10	1333-84-2 215-691-6	-	-	
Classification:		DSD: - CLP: -			
Zinc oxide	1 - 5	1314-13-2 215-222-5	-	030-013-00-7	
Classification:		DSD: N;R50/53 CLP: Aquatic Acute 1;H400, Aquatic Chronic 1;H410			

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

#: This substance has been assigned Community workplace exposure limit(s).

Composition comments The full text for all R- and H-phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
4.1. Description of first aid measures	
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Take off contaminated clothing and wash before reuse. Immediately flush with plenty of water for at least 15 minutes. Chemical burns must be treated by a physician. Get medical attention immediately.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control centre. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
4.2. Most important symptoms and effects, both acute and delayed	May cause redness and pain. Exposed may experience eye tearing, redness, and discomfort. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Overexposure to mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	No unusual fire or explosion hazards noted.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
5.2. Special hazards arising from the substance or mixture	During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	In the event of fire, cool tanks with water spray. Water runoff can cause environmental damage.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate personal protective equipment. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
For emergency responders	Keep unnecessary personnel away.
6.2. Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Environmental manager must be informed of all releases.
6.3. Methods and material for containment and cleaning up	Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Wear appropriate protective equipment and clothing during clean-up. Ventilate the contaminated area. Following product recovery, flush area with water. Should not be released into the environment. Never return spills in original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid inhalation of vapors/dust and contact with skin and eyes. Provide adequate general and local exhaust ventilation. Wear suitable protective clothing, gloves and eye/face protection. See Section 8 for personal protective equipment. Pregnant women should not work with the product, if there is the least risk of exposure. Avoid release to the environment. Observe good industrial hygiene practices.
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7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, well-ventilated place. Keep locked up. Store away from incompatible materials (See Section 10).

7.3. Specific end use(s)

Industrial Leak Sealant.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits****Austria. MAK List**

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	MAK	5 mg/m3	Respirable fraction.
		5 mg/m3	Respirable fume.
	10 mg/m3	Inhalable fraction.	
	STEL	20 mg/m3	Inhalable fraction.
		10 mg/m3	Respirable fume.
Phosphoric acid (CAS 7664-38-2)	MAK	10 mg/m3	Respirable fraction.
		1 mg/m3	
Zinc oxide (CAS 1314-13-2)	MAK	2 mg/m3	
		5 mg/m3	Fume and respirable dust.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	1 mg/m3	Respirable fraction.
	STEL	6 mg/m3	
Borax decahydrate (CAS 1303-96-4)	TWA	2 mg/m3	
	STEL	2 mg/m3	
Phosphoric acid (CAS 7664-38-2)	TWA	1 mg/m3	
	STEL	10 mg/m3	Respirable fraction.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
		10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		2 mg/m3	Respirable fraction.
	10 mg/m3	Dust.	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	10 mg/m3	Dust.
		1,5 mg/m3	Respirable fraction.
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	
	TWA	5 mg/m3	

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Fume.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	0,1 mg/m3	Respirable dust.
Phosphoric acid (CAS 7664-38-2)	Ceiling	2 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	Ceiling	5 mg/m3	
	TWA	2 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TLV	5 mg/m3	Total
		2 mg/m3	Respirable.
Borax decahydrate (CAS 1303-96-4)	TLV	2 mg/m3	
Phosphoric acid (CAS 7664-38-2)	TLV	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	TLV	4 mg/m3	

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Borax decahydrate (CAS 1303-96-4)	STEL	5 mg/m3	
		2 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	Vapor.
		1 mg/m3	Vapor.
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Borax decahydrate (CAS 1303-96-4)	TWA	0,5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	1 mg/m3	
		10 mg/m3	Fume.
		2 mg/m3	Fume.

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	VME	10 mg/m3	
Borax decahydrate (CAS 1303-96-4)	VME	5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	VLE	2 mg/m3	
		0,5 ppm	
		1 mg/m3	
Zinc oxide (CAS 1314-13-2)	VME	0,2 ppm	
		5 mg/m3	Fume.
		10 mg/m3	Dust.

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	4 mg/m3	Inhalable dust.
		1,5 mg/m3	Respirable dust.
Borax decahydrate (CAS 1303-96-4)	TWA	0,75 mg/m3	Inhalable fraction.
Phosphoric acid (CAS 7664-38-2)	TWA	2 mg/m3	Inhalable fraction.
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	Respirable fume.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Borax decahydrate (CAS 1303-96-4)	AGW	0,5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	AGW	2 mg/m3	Inhalable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	5 mg/m3	Inhalable
		10 mg/m3	Respirable.
Borax decahydrate (CAS 1303-96-4)	TWA	10 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	6 mg/m3	Respirable.
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	20 mg/m3	Respirable.
	TWA	5 mg/m3	Respirable.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	10 mg/m3	
Borax decahydrate (CAS 1303-96-4)	TWA	2 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	TWA	4 mg/m3	Fume.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Borax decahydrate (CAS 1303-96-4)	TWA	5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	10 mg/m3	Respirable fraction and fume.
	TWA	2 mg/m3	Respirable fraction and fume.

Italy. OELs

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	1 mg/m3	Respirable fraction.
Borax decahydrate (CAS 1303-96-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	10 mg/m3	Respirable fraction.

Italy. OELs

Components	Type	Value	Form
	TWA	2 mg/m3	Respirable fraction.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	6 mg/m3	Decomposition aerosol.
Phosphoric acid (CAS 7664-38-2)		4 mg/m3	
	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	TWA	0,5 mg/m3	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	5 mg/m3	Inhalable fraction.
		2 mg/m3	Respirable fraction.
Borax decahydrate (CAS 1303-96-4)	STEL	5 mg/m3	
	TWA	2 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	

Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3
	TWA	1 mg/m3

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3
	TWA	1 mg/m3

Netherlands. OELs (binding)

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3
	TWA	1 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Aluminium oxide (CAS 1333-84-2)	TLV	10 mg/m3
Borax decahydrate (CAS 1303-96-4)	TLV	5 mg/m3
Phosphoric acid (CAS 7664-38-2)	TLV	1 mg/m3
Zinc oxide (CAS 1314-13-2)	TLV	5 mg/m3

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	2,5 mg/m3	Fume, total dust.
		1,2 mg/m3	Respirable dust and/or fume.
Borax decahydrate (CAS 1303-96-4)	STEL	2 mg/m3	Dust.
	TWA	0,5 mg/m3	Dust.

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)

Components	Type	Value	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	10 mg/m3	
Borax decahydrate (CAS 1303-96-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	STEL	5 mg/m3	Aerosol
		1,2 ppm	Aerosol
	TWA	2 mg/m3	Aerosol
		0,5 ppm	Aerosol
Phosphoric acid (CAS 7664-38-2)	STEL	0,5 mg/m3	
	TWA	0,2 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
		0,1 mg/m3	
Phosphoric acid (CAS 7664-38-2)	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	Respirable fume.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Phosphoric acid (CAS 7664-38-2)	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Respirable fume.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	10 mg/m3	
Borax decahydrate (CAS 1303-96-4)	TWA	6 mg/m3	
		2 ppm	

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	5 mg/m3	Total dust.
		2 mg/m3	Respirable dust.
Borax decahydrate (CAS 1303-96-4)	STEL	5 mg/m3	Total dust.
	TWA	2 mg/m3	Total dust.
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	STEL	24 mg/m3	Fume and respirable dust.
	TWA	3 mg/m3	Fume and respirable dust.
Borax decahydrate (CAS 1303-96-4)	STEL	3 mg/m3	Respirable dust.
		5 mg/m3	Inhalable dust.
Phosphoric acid (CAS 7664-38-2)	TWA	5 mg/m3	Inhalable dust.
	STEL	2 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	3 mg/m3	Fume and respirable dust.
	TWA	3 mg/m3	Fume and respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1333-84-2)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Borax decahydrate (CAS 1303-96-4)	TWA	5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3	
	TWA	1 mg/m3	

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m3
	TWA	1 mg/m3

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling time
Aluminium oxide (CAS 1333-84-2)	200 micrograms/liter	Aluminium	Urine	*

* - For sampling details, please see the source document.

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling time
Phosphoric acid (CAS 7664-38-2)	25 %	red blood cell or total blood acetylcholinesterase activity (EC. 3.1.1.7.)	Reduction from individual baseline activity in red blood cells	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Observe Occupational Exposure Limits and minimise the risk of inhalation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection

Wear chemical-resistant, impervious gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

- Other

Wear chemical resistant protective clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use respiratory equipment with combination filter, type A2/P2.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance White paste.

Physical state Solid.

Form Solid. Paste.

Colour White. **Odour**

Odourless.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 43,33 °C (110 °F) Estimated

Flash point > 150,0 °C (> 302,0 °F) Closed cup

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Vapour pressure	0,03 mm Hg (20°C/ 68°F)
Vapour density	Not available. Relative
density	Not available.
Solubility(ies)	Slightly soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong bases. Strong oxidising agents. Corrosive to metals.
10.6. Hazardous decomposition products	Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Ingestion	May cause burns in mucous membranes, throat, oesophagus and stomach.
Inhalation	Inhalation of vapours or mists of the product may be irritating to the respiratory system.
Skin contact	Causes skin burns.
Eye contact	Causes severe eye damage.

Symptoms May cause redness and pain. Exposed may experience eye tearing, redness, and discomfort. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Overexposure to mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.

11.1. Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise. However, ingestion is not likely to be a primary route of occupational exposure.

Components	Species	Test results
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Borax decahydrate (CAS 1303-96-4)

Acute

Dermal

LD50

Rabbit

> 10000 mg/kg

Phosphoric acid (CAS 7664-38-2)

Acute

Dermal

LD50

Rabbit

2740 mg/kg

Oral

LD50

Rat

1530 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes severe eye burns. Causes serious eye damage.

Respiratory sensitisation Due to lack of data the classification is not possible.

Skin sensitisation Not a skin sensitiser.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Due to lack of data the classification is not possible.
Reproductive toxicity	May damage fertility.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Phosphoric acid (CAS 7664-38-2)		
Aquatic		
Fish	LC50 Mosquitofish (Gambusia)	138 mg/l, 96 h
Zinc oxide (CAS 1314-13-2)		
Aquatic		
Crustacea	LC50 Water flea (Daphnia magna)	0,098 mg/l, 48 Hours

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential No data available for this product.

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

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN1805
14.2. UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)	8
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	Yes

Tunnel restriction code E
Labels required 8
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN1805
14.2. UN proper shipping name PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es) 8
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards Yes
Labels required 8
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN1805
14.2. UN proper shipping name Phosphoric Acid, Solution
14.3. Transport hazard class(es) 8
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards Yes
Labels required 8
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN1805
14.2. UN proper shipping name Phosphoric acid, solution
14.3. Transport hazard class(es) 8
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards Yes
Labels required 8
ERG Code 8L
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number UN1805
14.2. UN proper shipping name PHOSPHORIC ACID SOLUTION
14.3. Transport hazard class(es) 8
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards
Marine pollutant Yes
Labels required 8
EmS F-A, S-B
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Borax decahydrate (CAS 1303-96-4)

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Borax decahydrate (CAS 1303-96-4)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Borax decahydrate (CAS 1303-96-4)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Borax decahydrate (CAS 1303-96-4)

Phosphoric acid (CAS 7664-38-2)

Directive 94/33/EC on the protection of young people at work

Borax decahydrate (CAS 1303-96-4)

Phosphoric acid (CAS 7664-38-2)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Pregnant women should not work with the product, if there is the least risk of exposure.

National regulations

Young people under 18 years old are not allow to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative. DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.

References

ESIS (European chemical Substances Information System)
IARC Monographs. Overall Evaluation of Carcinogenicity
HSDB® - Hazardous Substances Data Bank
Registry of Toxic Effects of Chemical Substances (RTECS)

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R34 Causes burns.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60 May impair fertility.
R61 May cause harm to the unborn child.
H314 Causes severe skin burns and eye damage.
H360FD May damage fertility. May damage the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.