

SAFETY DATA SHEET

Version #: 01

Issue date: 07-24-2023

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

1.1. Product identifier

Trade name or designation of the mixture WB D Component A

Registration number -

Synonyms None.

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

Identified uses Not available.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name ITW Performance Polymers

Address Bay 150
Shannon Industrial Estate
Co. Clare, Ireland

Division

Telephone Phone 353(61)771500

e-mail customerservice.shannon@itwpp.com

Contact person Not available.

1.4. Emergency telephone number Emergency Number 44(0)1235 239 670

General in EU 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Austria National Poisons Information Center +431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Belgium National Poisons Control Center 070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Bulgaria National Toxicological Information Center +359 2 9154 233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Croatia Poisons Information Center +385 1 2348 342 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Cyprus Poison Center 1401 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Czech Republic National Poisons Information Center +420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Denmark National Poisons Control Center +45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Estonia National Poisons Information Center 16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)

Finland National Poison Information Center (09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

France National Poisons Control Center ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Greece Poison Information Centre	(0030) 2107793777 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Hungary National Emergency Phone Number	+36-80-201-199 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Iceland Poison Center	(+354) 543 2222 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Latvia Emergency medical aid	113
Latvia Poison and Drug Information Center	+371 67042473 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Lithuania Neatidēliotina informacija apsinuodijus	+370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Malta Accident and Emergency Department	2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Netherlands National Poisons Information Center (NVIC)	NVIC: +31 (0)88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)
Norway Norwegian Poison Information Center	22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Portugal Poison Center	800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Romania Biroul RSI si Informare Toxicologica	021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.)
Slovakia National Toxicological Information Center	+421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Spain Toxicology Information Service	+ 34 91 562 04 20 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Sweden National Poison Information Center	112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Switzerland Tox Info Suisse	145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

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 Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Skin sensitization	Category 1	H317 - May cause an allergic skin reaction.

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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2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

UFI:

Austria: T300-C0GW-V008-G3PR
Belgium: T300-C0GW-V008-G3PR
Bulgaria: T300-C0GW-V008-G3PR
Croatia: T300-C0GW-V008-G3PR
Cyprus: T300-C0GW-V008-G3PR
Czech Republic: T300-C0GW-V008-G3PR
Denmark: T300-C0GW-V008-G3PR
Estonia: T300-C0GW-V008-G3PR
EU: T300-C0GW-V008-G3PR
Finland: T300-C0GW-V008-G3PR
France: T300-C0GW-V008-G3PR
Germany: T300-C0GW-V008-G3PR
Greece: T300-C0GW-V008-G3PR
Hungary: T300-C0GW-V008-G3PR
Iceland: T300-C0GW-V008-G3PR
Ireland: T300-C0GW-V008-G3PR
Italy: T300-C0GW-V008-G3PR
Latvia: T300-C0GW-V008-G3PR
Lithuania: T300-C0GW-V008-G3PR
Luxembourg: T300-C0GW-V008-G3PR
Malta: T300-C0GW-V008-G3PR
Netherlands: T300-C0GW-V008-G3PR
Norway: T300-C0GW-V008-G3PR
Poland: T300-C0GW-V008-G3PR
Portugal: T300-C0GW-V008-G3PR
Romania: T300-C0GW-V008-G3PR
Slovakia: T300-C0GW-V008-G3PR
Slovenia: T300-C0GW-V008-G3PR
Spain: T300-C0GW-V008-G3PR
Sweden: T300-C0GW-V008-G3PR

Contains:

1,6-BIS(2,3-EPOXYPROPOXY)HEXANE, 2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve, 2-methoxy-1-methylethyl acetate, Phenol Polymer With Formaldehyde, Glycidyl Ether, Polysulfide Polymer, Particulate, reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), trizinc bis(orthophosphate), zinc oxide

Hazard pictograms



Signal word

Warning

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P261 Avoid breathing mist/vapors.
P264 Wash thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear eye protection/face protection.
P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage

Not available.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

78,5% of the mixture consists of component(s) of unknown acute oral toxicity. 78,5% of the mixture consists of component(s) of unknown acute dermal toxicity. 78,5% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	30-60%	25068-38-6 500-033-5	01-2119456619-26-0000	603-074-00-8	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317, Aquatic Chronic 2;H411					
Specific Concentration Limits: Skin Irrit. 2;H315: C ≥ 5 %, Eye Irrit. 2;H319: C ≥ 5 %					
Polysulfide Polymer, Particulate	10-30%	68611-50-7	-	-	
Classification: -					
Phenol Polymer With Formaldehyde, Glycidyl Ether	5-10%	28064-14-4	-	-	
Classification: -					
1,6-BIS(2,3-EPOXYPROPOXY)HEXA NE	1-5%	16096-31-4 240-260-4	-	-	
Classification: -					
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	1-5%	111-76-2 203-905-0	-	603-014-00-0	#
Classification: Acute Tox. 4;H302;(ATE: 1200 mg/kg bw), Acute Tox. 3;H311;(ATE: 400 mg/kg bw), Acute Tox. 4;H312, Acute Tox. 4;H332;(ATE: 11 mg/l), Skin Irrit. 2;H315, Eye Irrit. 2;H319					
trizinc bis(orthophosphate)	1-5%	7779-90-0 231-944-3	-	030-011-00-6	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
2-methoxy-1-methylethyl acetate	<1%	108-65-6 203-603-9	-	607-195-00-7	#
Classification: Flam. Liq. 3;H226					
zinc oxide	<1%	1314-13-2 215-222-5	-	030-013-00-7	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					

Other components below reportable
levels

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

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

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

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 if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. 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 (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
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	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Avoid breathing mist/vapors. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended ANNEX 1, PART 1 Categories of dangerous substances Hazard categories in accordance with Regulation (EC) No 1272/2008 - E2 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 200 tons; Upper-tier requirements = 500 tons)
7.3. Specific end use(s)	Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits**Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended**

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	MAK	98 mg/m ³	
		20 ppm	
	STEL	200 mg/m ³ 40 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Ceiling	550 mg/m ³	
		100 ppm	
	MAK	275 mg/m ³ 50 ppm	
zinc oxide (CAS 1314-13-2)	MAK	5 mg/m ³	Fume and respirable dust.
		20 mg/m ³	Inhalable fraction.
	STEL	10 mg/m ³	Respirable fraction.

**Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1 -
Chemical agents, as amended**

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³	
		50 ppm	
	TWA	98 mg/m ³ 20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m ³	
		100 ppm	
	TWA	275 mg/m ³ 50 ppm	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.
	TWA		

**Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as
amended**

Components	Type	Value	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³	
		50 ppm	
	TWA	98 mg/m ³ 20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m ³	
		100 ppm	
	TWA	275 mg/m ³ 50 ppm	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	
		5 mg/m ³	
	TWA		

Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	MAC	98 mg/m3	
	STEL	20 ppm	
		246 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	MAC	275 mg/m3	
	STEL	50 ppm	
		550 mg/m3	
zinc oxide (CAS 1314-13-2)	MAC	2 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.

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.

Cyprus. OELs. Occupational Exposure Limit Values of Chemicals at Work (Safety and Health at Work (Chem. Agents) Reg., Ann. 1, R.A.A. 268/2001, as amended)

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3
	TWA	50 ppm
		98 mg/m3
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm
	TWA	550 mg/m3
		100 ppm
		275 mg/m3
		50 ppm

Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Ceiling	200 mg/m3
	TWA	100 mg/m3
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Ceiling	550 mg/m3
	TWA	270 mg/m3
zinc oxide (CAS 1314-13-2)	Ceiling	5 mg/m3
	TWA	2 mg/m3

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TLV	98 mg/m3
		20 ppm
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TLV	275 mg/m3

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

Components	Type	Value	
		50 ppm	
zinc oxide (CAS 1314-13-2)	TLV	4 mg/m3	
Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended			
Components	Type	Value	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
		50 ppm	
	TWA	98 mg/m3	
		20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m3	
		100 ppm	
	TWA	275 mg/m3	
		50 ppm	
zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	
Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health			
Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	250 mg/m3	
		50 ppm	
	TWA	98 mg/m3	
		20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m3	
		100 ppm	
	TWA	270 mg/m3	
		50 ppm	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	2 mg/m3	Fume.
France. OELs. Occupational Exposure Limits as Prescribed by Art. R.4412-149 of Labor Code, as amended			
Components	Type	Value	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	VLE	246 mg/m3	
		50 ppm	
	VME	49 mg/m3	
		10 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	VLE	550 mg/m3	
		100 ppm	
	VME	275 mg/m3	
		50 ppm	
France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984			
Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	VLE	246 mg/m3	

Regulatory status: Regulatory binding (VRC)

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

Components	Type	Value	Form
		50 ppm	
Regulatory status: Regulatory binding (VRC)			
	VME	49 mg/m3	
Regulatory status: Regulatory binding (VRC)			
		10 ppm	
Regulatory status: Regulatory binding (VRC)			
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	VLE	550 mg/m3	
Regulatory status: Regulatory binding (VRC)			
		100 ppm	
Regulatory status: Regulatory binding (VRC)			
	VME	275 mg/m3	
Regulatory status: Regulatory binding (VRC)			
		50 ppm	
Regulatory status: Regulatory binding (VRC)			
zinc oxide (CAS 1314-13-2)	VME	5 mg/m3	Fume.
Regulatory status: Indicative limit (VL)			
		10 mg/m3	Dust.
Regulatory status: Indicative limit (VL)			

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

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TWA	49 mg/m3	
		10 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	270 mg/m3	
		50 ppm	
trizinc bis(orthophosphate) (CAS 7779-90-0)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	AGW	49 mg/m3	
		10 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	AGW	270 mg/m3	
		50 ppm	
zinc oxide (CAS 1314-13-2)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

Greece. OELs, Presidential Decree No. 307/1986, as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TWA	120 mg/m3	
		25 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m3	
		100 ppm	

Greece. OELs, Presidential Decree No. 307/1986, as amended

Components	Type	Value	Form
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m3	
		50 ppm	
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
	TWA	98 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m3	
	TWA	275 mg/m3	
zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Fume.
		5 mg/m3	Dust.

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm	
		550 mg/m3	
	TWA	100 ppm	
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m3	
		50 ppm	
	TWA	4 mg/m3	Fume.

Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
		50 ppm	
	TWA	98 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm	
		550 mg/m3	
	TWA	100 ppm	
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m3	
		50 ppm	
	STEL	10 mg/m3	Respirable fraction and fume.
	TWA	2 mg/m3	Respirable fraction and fume.

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

Components	Type	Value	Form
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	50 ppm	
		98 mg/m ³	
	STEL	20 ppm	
		550 mg/m ³	
zinc oxide (CAS 1314-13-2)	TWA	100 ppm	
		275 mg/m ³	
	STEL	50 ppm	Respirable fraction.
		10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³
	TWA	50 ppm
		98 mg/m ³
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm
	TWA	550 mg/m ³
		100 ppm
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m ³
		50 ppm
	TWA	0,5 mg/m ³

Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	100 mg/m ³
	TWA	20 ppm
		50 mg/m ³
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	10 ppm
	TWA	400 mg/m ³
		75 ppm
zinc oxide (CAS 1314-13-2)	TWA	250 mg/m ³
		50 ppm
	TWA	5 mg/m ³

Luxembourg. OELs. Binding Occupational Exposure Limit Values (Annex I), G.D.R. of 14 November 2016, OJ Memorial A, n ° 235/2016, as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³
	TWA	50 ppm
		98 mg/m ³
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm
	TWA	550 mg/m ³
		75 ppm

Luxembourg. OELs. Binding Occupational Exposure Limit Values (Annex I), G.D.R. of 14 November 2016, OJ Memorial A, n ° 235/2016, as amended

Components	Type	Value
		100 ppm
	TWA	275 mg/m3
		50 ppm

Malta. OELs. Protection of Health and Safety of Workers from Risks related to Chemical Agents at Work (L.N 227/2003 Schedules I and V), as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3
		50 ppm
	TWA	98 mg/m3
		20 ppm
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m3
		100 ppm
	TWA	275 mg/m3
		50 ppm

Netherlands. OELs per Annex XIII of Working Conditions Regulation (Staatscourant no. 252, 29 December 2006), as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3
	TWA	100 mg/m3
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	550 mg/m3

Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TLV	50 mg/m3	
		10 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TLV	270 mg/m3	
		50 ppm	
zinc oxide (CAS 1314-13-2)	TLV	5 mg/m3	Dust.
		5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	200 mg/m3	
	TWA	98 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	520 mg/m3	
	TWA	260 mg/m3	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Inhalable fraction.
	TWA	5 mg/m3	Inhalable fraction.

Portugal. Decree-Law No. 24/2012, Occupational Exposure Limit Values, Annex II, as amended

Components	Type	Value
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³
		50 ppm
	TWA	98 mg/m ³ 20 ppm
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m ³
		100 ppm
	TWA	275 mg/m ³ 50 ppm

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TWA	20 ppm	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³	
		50 ppm	
	TWA	98 mg/m ³ 20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m ³	
		100 ppm	
	TWA	275 mg/m ³ 50 ppm	
zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Fume.
	TWA	5 mg/m ³	Fume.

Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m ³	
		50 ppm	
	TWA	98 mg/m ³ 20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	550 mg/m ³	
		100 ppm	
	TWA	275 mg/m ³ 50 ppm	
trizinc bis(orthophosphate) (CAS 7779-90-0)	TWA	2 mg/m ³	Inhalable fraction.
		0,1 mg/m ³	Respirable fraction.

Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)

Components	Type	Value	Form
zinc oxide (CAS 1314-13-2)	STEL	1 mg/m ³	Respirable fume.
	TWA	1 mg/m ³	Respirable fume.

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	TWA	98 mg/m ³	
		20 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	275 mg/m ³	
		50 ppm	
zinc oxide (CAS 1314-13-2)	TWA	10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Spain. OELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 1-Valores Límites Ambientales (VLAs)

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	245 mg/m ³	
		50 ppm	
		98 mg/m ³	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	20 ppm	
		550 mg/m ³	
		100 ppm	
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m ³	
		50 ppm	
		10 mg/m ³	Respirable fraction.
zinc oxide (CAS 1314-13-2)	TWA	2 mg/m ³	Respirable fraction.

Sweden. OELs (Annex 1). Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1), as amended

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Ceiling	246 mg/m ³	
		50 ppm	
		50 mg/m ³	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	10 ppm	
		550 mg/m ³	
		100 ppm	
zinc oxide (CAS 1314-13-2)	TWA	275 mg/m ³	
		50 ppm	
		5 mg/m ³	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	98 mg/m ³	

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

Components	Type	Value	Form
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	20 ppm	
		49 mg/m3	
		10 ppm	
zinc oxide (CAS 1314-13-2)	STEL	275 mg/m3	
		50 ppm	
		275 mg/m3	
zinc oxide (CAS 1314-13-2)	TWA	50 ppm	Respirable fume.
		3 mg/m3	Respirable fume.

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
		50 ppm	
		123 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	25 ppm	
		548 mg/m3	
		100 ppm	
zinc oxide (CAS 1314-13-2)	STEL	274 mg/m3	
		50 ppm	
		4 mg/m3	Respirable dust.
zinc oxide (CAS 1314-13-2)	TWA	10 mg/m3	Inhalable dust.

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

Components	Type	Value	Form
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	STEL	246 mg/m3	
		50 ppm	
		98 mg/m3	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	TWA	20 ppm	
		550 mg/m3	
		100 ppm	
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	STEL	275 mg/m3	
		50 ppm	

Biological limit values

Czech Republic. BELs. Government Decree 432/2003 Sb., as amended

Components	Value	Determinant	Specimen	Sampling Time
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (with hydrolysis)	Creatinine in urine	*
	0,17 mmol/mmol	Butoxyacetic acid (with hydrolysis)	Creatinine in urine	*

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

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

Components	Value	Determinant	Specimen	Sampling Time
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	150 mg/g	Butoxyessigsäure (nach Hydrolyse)	Creatinine in urine	*

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

Spain. BELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 3-Valores Límite Biológicos (VLB)

Components	Value	Determinant	Specimen	Sampling Time
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	200 mg/g	Ácido butoxiacético, con hidrólisis	Creatinine in urine	*

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

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle BAT-Werte

Components	Value	Determinant	Specimen	Sampling Time
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	150 mg/g	Butoxyessigsäure (nach Hydrolyse)	Creatinine in urine	*

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

UK. BELs. Biological Monitoring Guidance Values (BMGVs) (EH40/2005 (Fourth Edition 2020)), Table 2

Components	Value	Determinant	Specimen	Sampling Time
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	240 mmol/mol	Butoxyacetic acid	Creatinine in urine	*

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines**Austria MAK: Skin designation**

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Belgium OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Bulgaria OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Croatia ELVs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Czech Republic PELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Denmark GV: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Estonia OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

EU Exposure Limit Values: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Finland Exposure Limit Values: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

France INRS: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

France Mandatory OELs (VLEP): Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

Germany TRGS 900 Limit Values: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

Greece OEL: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Hungary OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

Iceland OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Ireland Exposure Limit Values: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Italy OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Danger of cutaneous absorption
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Danger of cutaneous absorption

Latvia OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Lithuania OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Luxembourg OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Malta OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Netherlands OELs (binding): Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

Norway Exposure Limit Values: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6) Can be absorbed through the skin.

Portugal OELs: Skin designation

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) Can be absorbed through the skin.

2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Romania OELs: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Slovakia OELs: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Spain OELs: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Sweden Threshold Limit Values: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.
Switzerland SUVA Limit Values at the Workplace: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
UK EH40 WEL: Skin designation	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Can be absorbed through the skin.
2-methoxy-1-methylethyl acetate (CAS 108-65-6)	Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. 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). Face shield is recommended.

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves.

- Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

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. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Color	Black
Odor	Characteristic.
Melting point/freezing point	Not available.

Boiling point or initial boiling point and boiling range	473 °F (245 °C) estimated
Flammability	Not applicable.
Flash point	>212,0 °F (>100,0 °C)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapor pressure	Not available.
Density and/or relative density	
Density	1,20 g/cm ³
Vapor density	Not available.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Percent volatile	3 % estimated
Specific gravity	1,2

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 oxidizing agents.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

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

Acute toxicity Not known.

Components	Species	Test Results
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)		
Acute		
Dermal		
LD50	Rabbit	400 mg/kg
zinc oxide (CAS 1314-13-2)		
Acute		
Inhalation		
LC50	Mouse	> 5,7000000000000002 mg/l, 4 Hours

Components	Species	Test Results
Oral LD50	Rat	> 5 g/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitization	Due to partial or complete lack of data the classification is not possible.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.	
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.	

IARC Monographs. Overall Evaluation of Carcinogenicity

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Not applicable.	
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.	
Specific target organ toxicity - repeated exposure	Not applicable.	
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.	
Mixture versus substance information	No information available.	

11.2. Information on other hazards

Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.	
Other information	Not available.	

SECTION 12: Ecological information

12.1. Toxicity	Toxic to aquatic life with long lasting effects. Due to partial or complete lack of data the classification for hazardous to the aquatic environment, acute hazard, is not possible.	
12.2. Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
12.3. Bioaccumulative potential		
Partition coefficient n-octanol/water (log Kow)	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	0,83
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	No data available.	
12.5. Results of PBT and vPvB assessment	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.	
12.6. Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.	
12.7. 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.	
12.8. Additional information		
Estonia Dangerous substances in soil Data		
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)	Chemical pesticides (As the total sum of the active substances) 0,5 MG/KG Chemical pesticides (As the total sum of the active substances) 20 MG/KG Chemical pesticides (As the total sum of the active substances) 5 MG/KG	
trizinc bis(orthophosphate) (CAS 7779-90-0)	Zinc (Zn) 1000 MG/KG Zinc (Zn) 200 MG/KG Zinc (Zn) 500 MG/KG	
zinc oxide (CAS 1314-13-2)	Zinc (Zn) 1000 MG/KG Zinc (Zn) 200 MG/KG	

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	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
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. 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.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information**ADR**

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin (Number average NW<=700), Liquid polysulfide polymer with thiol end groups (NW<1800)))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	-
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin (Number average NW<=700), Liquid polysulfide polymer with thiol end groups (NW<1800)))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin (Number average NW<=700), Liquid polysulfide polymer with thiol end groups (NW<1800)))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin (Number average NW<=700), Liquid polysulfide polymer with thiol end groups (NW<1800)))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	No.

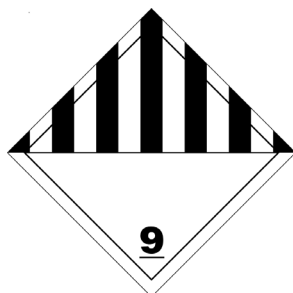
ERG Code	9L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin (Number average $NW \leq 700$), Liquid polysulfide polymer with thiol end groups ($NW < 1800$))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-F
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not established.

ADN; ADR; IATA; IMDG; RID



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 and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 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, as amended

trizinc bis(orthophosphate) (CAS 7779-90-0)

zinc oxide (CAS 1314-13-2)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

UFI:

Austria: T300-C0GW-V008-G3PR
 Belgium: T300-C0GW-V008-G3PR
 Bulgaria: T300-C0GW-V008-G3PR
 Croatia: T300-C0GW-V008-G3PR
 Cyprus: T300-C0GW-V008-G3PR
 Czech Republic: T300-C0GW-V008-G3PR
 Denmark: T300-C0GW-V008-G3PR
 Estonia: T300-C0GW-V008-G3PR
 EU: T300-C0GW-V008-G3PR
 Finland: T300-C0GW-V008-G3PR
 France: T300-C0GW-V008-G3PR
 Germany: T300-C0GW-V008-G3PR
 Greece: T300-C0GW-V008-G3PR
 Hungary: T300-C0GW-V008-G3PR
 Iceland: T300-C0GW-V008-G3PR
 Ireland: T300-C0GW-V008-G3PR
 Italy: T300-C0GW-V008-G3PR
 Latvia: T300-C0GW-V008-G3PR
 Lithuania: T300-C0GW-V008-G3PR
 Luxembourg: T300-C0GW-V008-G3PR
 Malta: T300-C0GW-V008-G3PR
 Netherlands: T300-C0GW-V008-G3PR
 Norway: T300-C0GW-V008-G3PR
 Poland: T300-C0GW-V008-G3PR
 Portugal: T300-C0GW-V008-G3PR
 Romania: T300-C0GW-V008-G3PR
 Slovakia: T300-C0GW-V008-G3PR
 Slovenia: T300-C0GW-V008-G3PR
 Spain: T300-C0GW-V008-G3PR
 Sweden: T300-C0GW-V008-G3PR

Authorizations**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, 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 - Conditions of restriction given for the associated entry number should be considered**

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2) 75

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

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances
 Hazard categories in accordance with Regulation (EC) No 1272/2008
 - E2 Hazardous to the Aquatic Environment Chronic

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

Contains a substance which is included on the TRGS 905 list of carcinogenic, germ cell mutagenic and reproductive toxic substances

zinc oxide (CAS 1314-13-2)

Anorganische Faserstäube, soweit nicht erwähnt (ausgenommen Gipsfasern und Wollastonitfasern)

France regulations**France INRS Table of Occupational Diseases**

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve (CAS 111-76-2)

Affections engendrées par les solvants organiques liquides à usage professionnel : hydrocarbures liquides aliphatiques ou cycliques saturés ou insaturés et leurs mélanges; hydrocarbures halogénés liquides; dérivés nitrés des hydrocarbures aliphatiques; al 84

Phenol Polymer With Formaldehyde, Glycidyl Ether (CAS 28064-14-4)
 reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (CAS 25068-38-6)

Maladies professionnelles provoquées par les résines époxydiques et leurs constituants 51
 Maladies professionnelles provoquées par les résines époxydiques et leurs constituants 51

Product registration number

Austria	UFI: T300-C0GW-V008-G3PR
Belgium	UFI: T300-C0GW-V008-G3PR
Czech Republic	UFI: T300-C0GW-V008-G3PR
Denmark	UFI: T300-C0GW-V008-G3PR
European Union	UFI: T300-C0GW-V008-G3PR
Finland	UFI: T300-C0GW-V008-G3PR
France	UFI: T300-C0GW-V008-G3PR
Germany	UFI: T300-C0GW-V008-G3PR
Greece	UFI: T300-C0GW-V008-G3PR
Hungary	UFI: T300-C0GW-V008-G3PR
Italy	UFI: T300-C0GW-V008-G3PR
Netherlands	UFI: T300-C0GW-V008-G3PR
Norway	UFI: T300-C0GW-V008-G3PR
Poland	UFI: T300-C0GW-V008-G3PR
Portugal	UFI: T300-C0GW-V008-G3PR
Slovakia	UFI: T300-C0GW-V008-G3PR
Slovenia	UFI: T300-C0GW-V008-G3PR
Spain	UFI: T300-C0GW-V008-G3PR
Sweden	UFI: T300-C0GW-V008-G3PR
Switzerland	UFI: T300-C0GW-V008-G3PR

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information**List of abbreviations**

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.
Not available.

References**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, which are not written out in full under sections 2 to 15

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Revision information

None.

Training information

Follow training instructions when handling this material.

Disclaimer

ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.