SDS ATTACHMENT

PLEASE ATTACH THIS COMPLETED SHEET TO THE SDS FOR:

PRODUCT:	**MZ-90**
SDS DATE:	**25 March 2022**

1. Supplier:

Tradegear Ltd
Level 1, 99 Clarence Street
Riccarton
Christchurch 8011
New Zealand
Phone: 0800 22 44 34 or +64 3 341 8055
Fax: 0800 22 11 51 or +64 9 522 8833
24 hr emergency contact: +64 21 510 622

Website: www.tradegear.co.nz
Email: office@tradegear.co.nz

Emergency Information: National Poison Centre: 0800 764 766 (0800 POISON)

2 & 15. Hazards Identification & Regulatory Requirements:

Product Name: **Product Use:**	**MZ-90** Paint with protection against rust (aerosol)
Group Standard, Approval Number	Aerosols (Flammable) Group Standard 2020 - HSR002515 All ingredients are listed on the New Zealand Inventory of Chemicals (NZIoC)
GHS Classification: [Note: classification based on the CRC Industries SDS]	Aerosol Catergory 1 Skin irritation Category 2 Eye irritation Category 2 Specific target organ toxicity - Single exposure Category 3, narcotic effects Hazardous to the aquatic environment acute Category 1
Hazard Statement and Precautions, including Class 9 statements where applicable:  **Danger**	Extremely flammable aerosol. Pressurised container: May burst if heated. Causes skin irritation Causes serious eye irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects. Keep out of reach of children. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid breathing mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection
Tolerable Exposure Limit or Environmental Exposure Limit:	None applied to this product or its ingredients.

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

1.1. Product identifier

Trade name or designation of the mixture MZ-90

Registration number -

Synonyms None.

Product code BDS002613AE

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

Identified uses Paints

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Company name CRC Industries UK Ltd.

Address Wylds Road
Castlefield Industrial Estate
TA6 4DD Bridgwater Somerset
United Kingdom

Telephone +44 1278 727200

Fax +44 1278 425644

E-mail hse.uk@crcind.com

Website www.crcind.com

Company name CRC Industries Europe bv

Address Touwslagerstraat 1
9240 Zele
Belgium

Telephone +32(0)52/45.60.11

Fax +32(0)52/45.00.34

E-mail hse@crcind.com

Website www.crcind.com

1.4. Emergency telephone number

Tel.:(+44)(0)1278 72 7200 (office hours: 9-17h GMT)

General in EU	112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Austria National Poisons Information Centre	+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 Centre	+359 2 9154233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Czech Republic National Poisons Information Centre	+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 Centre	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.)
Hungary National Emergency Phone Number	36 80 20 11 99 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Lithuania Neatidėliotina 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)	030-274 88 88 (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 Centre	800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Romania Număr de telefon care poate fi apelat în caz de urgență:	021 5992300, int. 291 Spitalul Clinic de Urgență București: spital@urgentafloreasca.ro
Romania	0265 212111, 0265 211292, 0265 217235 Spitalul Clinic Județean de Urgență Târgu Mureș: secretariat@spitjudms.ro
Slovakia National Toxicological Information Centre	+421 2 5477 4166 (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

Physical hazards		
Aerosols	Category 1	H222 - Extremely flammable aerosol. H229 - Pressurized container: May burst if heated.
Health hazards		
Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Environmental hazards		
Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Contains: butanone; ethyl methyl ketone, Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane, Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Hazard pictograms

Signal word Danger

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurized container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing mist/vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response Not assigned.

Storage

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal

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

Supplemental label information VOC content declaration according to directive 2004/42/EC:
Subcategory: Special Finishes, Coating: All types. Max. allowed content g/l = 840.
VOC < <675 g/L

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 product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Dimethyl ether	50 - 75	115-10-6 204-065-8	01-2119472128-37	603-019-00-8	#
Classification: Press. Gas;H280					
zinc	25 - 50	7440-66-6 231-175-3	01-2119467174-37	030-001-01-9	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
butanone; ethyl methyl ketone	5 - 10	78-93-3 201-159-0	01-2119457290-43	606-002-00-3	#
Classification: Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336					
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	5 - 10	- 921-024-6	01-2119475514-35	-	
Classification: Flam. Liq. 2;H225, Skin Irrit. 2;H315, STOT SE 3;H336, Asp. Tox. 1;H304, Aquatic Chronic 2;H411					
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	5 - 10	- 919-857-5	01-2119463258-33	-	
Classification: Flam. Liq. 3;H226, STOT SE 3;H336, Asp. Tox. 1;H304					
Zinc oxide	1 - 5	1314-13-2 215-222-5	01-2119463881-32	030-013-00-7	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
calcium;2-ethylhexanoate	<0,5	136-51-6 205-249-0	01-2119978297-19	-	
Classification: Eye Dam. 1;H318, Repr. 2;H361					

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.
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.

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 poison centre or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. 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 In the unlikely event of swallowing contact a physician or poison control centre. Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

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 Extremely flammable aerosol.

5.1. Extinguishing media

Suitable extinguishing media Foam. Dry powder. Dry sand. Carbon dioxide (CO2).

Unsuitable extinguishing media Water. Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture Contents under pressure. Pressurised container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire fighting procedures Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapour pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. 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. Avoid breathing mist/vapours. Ventilate closed spaces before entering them. 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 Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. The product is immiscible with water and will sediment in water systems. Prevent product from entering drains. 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.

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

Pressurised container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS). Storage class (TRGS 510): 2B (Aerosol dispensers and lighters)

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria

Components	Type	Value
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	TWA (MAK)	200 ppm

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	MAK	295 mg/m3	
		100 ppm	
	STEL	590 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	Ceiling	3820 mg/m3	
		2000 ppm	
	MAK	1910 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	MAK	5 mg/m3	Fume and respirable dust.
	STEL	20 mg/m3	Inhalable fraction.
		10 mg/m3	Respirable fraction.

Belgium. Exposure Limit Values

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

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

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	885 mg/m3
	TWA	590 mg/m3
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3

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

Components	Type	Value
		1000 ppm
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3
	TWA	5 mg/m3

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	MAC	600 mg/m3	
		200 ppm	
	STEL	900 mg/m3	
		300 ppm	
Dimethyl ether (CAS 115-10-6)	MAC	1920 mg/m3	
		1000 ppm	
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.

Czech Republic. OELs. Government Decree 361

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	Ceiling	900 mg/m3
	TWA	600 mg/m3
Dimethyl ether (CAS 115-10-6)	Ceiling	2000 mg/m3
	TWA	1000 mg/m3
Zinc oxide (CAS 1314-13-2)	Ceiling	5 mg/m3
	TWA	2 mg/m3

Denmark

Components	Type	Value
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	TWA	25 ppm

Denmark. Exposure Limit Values

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	TLV	145 mg/m3
		50 ppm
Dimethyl ether (CAS 115-10-6)	TLV	1920 mg/m3
		1000 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
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

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

Finland

Components	Type	Value
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	TWA	500 mg/m3

Finland. Workplace Exposure Limits

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	300 mg/m3	
		100 ppm	
	TWA	60 mg/m3	
		20 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	2000 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	2 mg/m3	Fume.

France

Components	Type	Value
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	STEL	1500 mg/m3
	TWA	1000 mg/m3

France. OELs. Indicative Occupational Exposure Limits as Prescribed by Order of 30 June 2004, as amended

Components	Type	Value
Dimethyl ether (CAS 115-10-6)	VME	1920 mg/m3
		1920 mg/m3
		1000 ppm
		1000 ppm

France. OELs. Occupational Exposure Limits as Prescribed by Art. R.4412-149 of Labor Code, as amended

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	VLE	900 mg/m3
		300 ppm
	VME	600 mg/m3
		200 ppm

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

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	VLE	900 mg/m3	
Regulatory status: Regulatory binding (VRC)			
		300 ppm	
Regulatory status: Regulatory binding (VRC)			
	VME	600 mg/m3	
Regulatory status: Regulatory binding (VRC)			
		200 ppm	
Regulatory status: Regulatory binding (VRC)			
Dimethyl ether (CAS 115-10-6)	VME	1920 mg/m3	
Regulatory status: Regulatory indicative (VRI)			
		1000 ppm	
Regulatory status: Regulatory indicative (VRI)			

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

Components	Type	Value	Form
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)

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1900 mg/m3	
		1000 ppm	
zinc (CAS 7440-66-6)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.
Zinc oxide (CAS 1314-13-2)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.

Germany - TRGS 900

Components	Type	Value
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	TWA	700 mg/m3
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	TWA	300 mg/m3

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

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	AGW	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	AGW	1900 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
	TWA	600 mg/m3	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

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

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

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	145 mg/m3	
		50 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1885 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	TWA	4 mg/m3	Fume.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction and fume.
	TWA	2 mg/m3	Respirable fraction and fume.

Italy. Occupational Exposure Limits

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

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

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	200 mg/m3
		67 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm
Zinc oxide (CAS 1314-13-2)	TWA	0,5 mg/m3

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	STEL	2280 mg/m3
		1500 ppm
	TWA	1920 mg/m3
		1000 ppm
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3

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

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm

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
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm

Netherlands. OELs (binding)

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
	TWA	590 mg/m3
Dimethyl ether (CAS 115-10-6)	STEL	1500 mg/m3
	TWA	950 mg/m3

Norway

Components	Type	Value
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	TWA	275 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	TLV	220 mg/m3	
		75 ppm	
Dimethyl ether (CAS 115-10-6)	TLV	384 mg/m3	
		200 ppm	
Zinc oxide (CAS 1314-13-2)	TLV	5 mg/m3	Dust.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
		5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
	TWA	450 mg/m3	
Dimethyl ether (CAS 115-10-6)	TWA	1000 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Inhalable fraction.
	TWA	5 mg/m3	Inhalable fraction.

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

Components	Type	Value
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm

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

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
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
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
zinc (CAS 7440-66-6)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	1 mg/m3	Respirable fume.
	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
butanone; ethyl methyl ketone (CAS 78-93-3)	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	TWA	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Sweden

Components	Type	Value
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	STEL (STV)	300 ppm
	TWA	200 ppm
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	STEL (STV)	600 mg/m3
	TWA	300 mg/m3

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	Ceiling	900 mg/m3	
		300 ppm	
	TWA	150 mg/m3	
		50 ppm	
Dimethyl ether (CAS 115-10-6)	STEL	1500 mg/m3	
		800 ppm	
	TWA	950 mg/m3	
		500 ppm	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Total dust.

Switzerland

Components	Type	Value
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane	TWA	500 ppm

Switzerland

Components	Type	Value
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	STEL	6000 mg/m3
	TWA	300 mg/m3

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	590 mg/m3	
		200 ppm	
	TWA	590 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	TWA	1910 mg/m3	
		1000 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	3 mg/m3	Respirable fume.
	TWA	3 mg/m3	Respirable fume.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	899 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Dimethyl ether (CAS 115-10-6)	STEL	958 mg/m3	
		500 ppm	
	TWA	766 mg/m3	
		400 ppm	
Zinc oxide (CAS 1314-13-2)	TWA	4 mg/m3	Respirable dust.
		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
butanone; ethyl methyl ketone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Dimethyl ether (CAS 115-10-6)	TWA	1920 mg/m3
		1000 ppm

Biological limit values

Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	2,6 mg/g	methyl ethyl ketone	Creatinine in urine	*
	4,08 mmol/mol	methyl ethyl ketone	Creatinine in urine	*

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

France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	2 mg/l	Méthyléthylcétone	Urine	*

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

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

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	150 mg/l	2-Butanon	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
butanone; ethyl methyl ketone (CAS 78-93-3)	2 µg/l	MEK	Urine	*
	28 µmol/l	MEK	Urine	*

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

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	2 mg/l	Metiletilcetona	Urine	*

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

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	2 mg/l	2-Butanon (MEK)	Urine	*

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

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling Time
butanone; ethyl methyl ketone (CAS 78-93-3)	70 umol/l	Butan-2-one	Urine	*

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General Population

Components	Value	Assessment factor	Notes
butanone; ethyl methyl ketone (CAS 78-93-3)			
Long-term, Systemic, Dermal	412 mg/kg bw/day	2	Repeated dose toxicity
Long-term, Systemic, Inhalation	106 mg/m3	2	Repeated dose toxicity
calcium;2-ethylhexanoate (CAS 136-51-6)			
Long-term, Systemic, Dermal	6 mg/kg bw/day	40	Effect on fertility
Long-term, Systemic, Inhalation	8 mg/m3	10	Effect on fertility
Dimethyl ether (CAS 115-10-6)			
Long-term, Systemic, Inhalation	471 mg/m3	25	Repeated dose toxicity
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane (CAS -)			
Long-term, Systemic, Dermal	699 mg/kg bw/day		
Long-term, Systemic, Inhalation	608 mg/m3		
Long-term, Systemic, Oral	699 mg/kg bw/day		
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics (CAS -)			
Long-term, Systemic, Dermal	300 mg/kg		
Long-term, Systemic, Inhalation	900 mg/m3		
Long-term, Systemic, Oral	300 mg/kg		

Workers

Components	Value	Assessment factor	Notes
butanone; ethyl methyl ketone (CAS 78-93-3)			
Long-term, Systemic, Dermal	1161 mg/kg bw/day	1	Repeated dose toxicity
Long-term, Systemic, Inhalation	600 mg/m3	1	Repeated dose toxicity
calcium;2-ethylhexanoate (CAS 136-51-6)			
Long-term, Systemic, Dermal	5,67 mg/kg bw/day	20	developmental toxicity / teratogenicity
Long-term, Systemic, Inhalation	32 mg/m3	5	developmental toxicity / teratogenicity

Dimethyl ether (CAS 115-10-6)			
Long-term, Systemic, Inhalation	1894 mg/m3	12,5	Repeated dose toxicity
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane (CAS -)			
Long-term, Systemic, Dermal	773 mg/kg bw/day		
Long-term, Systemic, Inhalation	2035 mg/m3		
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics (CAS -)			
Long-term, Systemic, Dermal	300 mg/kg		
Short-term, Systemic, Inhalation	1500 mg/m3		

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
butanone; ethyl methyl ketone (CAS 78-93-3)			
Freshwater	55,8 mg/l	1	
Secondary poisoning	1000 mg/kg	30	Oral
Sediment (freshwater)	284,74 mg/kg		
Soil	22,5 mg/kg	1	
Dimethyl ether (CAS 115-10-6)			
Freshwater	0,155 mg/l	1000	
Sediment (freshwater)	0,681 mg/kg		
Soil	0,045 mg/kg		
STP	160 mg/l	10	
zinc (CAS 7440-66-6)			
Freshwater	20,6 µg/l	1	
Sediment (freshwater)	117,8 mg/kg	1	
Soil	35,6 mg/kg	1	
STP	100 µg/l	1	

Exposure guidelines

Austria MAK: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Denmark GV: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Finland Exposure Limit Values: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

France INRS: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Germany TRGS 900 Limit Values: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Hungary OELs: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Iceland OELs: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Ireland Exposure Limit Values: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Netherlands OELs (binding): Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) 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)

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

Switzerland SUVA Limit Values at the Workplace: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) Can be absorbed through the skin.

UK EH40 WEL: Skin designation

butanone; ethyl methyl ketone (CAS 78-93-3) 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). Use eye protection conforming to EN 166.
Skin protection	
- Hand protection	When handling the product wear chemical-resistant gloves (standard EN 374). The breakthrough time of the glove should be longer than the total duration of product use. If work lasts longer than the breakthrough time, gloves should be changed part-way through. Nitrile gloves are recommended. Suitable gloves can be recommended by the glove supplier.
- Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapour cartridge and full facepiece. (Filter type AX)
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	When using do not smoke. 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	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	Aerosol.
Colour	Grey
Odour	Characteristic odor.
Melting point/freezing point	-86,6 °C (-124 °F) estimated
Boiling point or initial boiling point and boiling range	61 °C (141,8 °F) estimated
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	0,6 % estimated
Explosive limit – upper (%)	10 % estimated
Flash point	< 0 °C (< 32,0 °F) Closed cup
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	Not available.
pH	Not applicable.
Solubility(ies)	
Solubility (water)	Insoluble in water
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1,42 g/cm3 at 20°C
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

Explosive properties	Not explosive.
Heat of combustion (NFPA 30B)	15,55 kJ/g estimated
Oxidising properties	Not oxidising.
VOC	640 g/l

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	Avoid high temperatures.
10.5. Incompatible materials	Strong oxidising agents. Amines. Ammonia. Caustics. Isocyanates.
10.6. Hazardous decomposition products	Carbon oxides.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

Skin contact Causes skin irritation.

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 May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

11.1. Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Components	Species	Test Results
butanone; ethyl methyl ketone (CAS 78-93-3)		
Acute		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Oral		
LD50	Rat	2300 - 3500 mg/kg
Dimethyl ether (CAS 115-10-6)		
Acute		
Inhalation		
LC50	Rat	308,5 mg/l, 4 Hours
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane		
Acute		
Dermal		
LD50	Rat	2920 mg/kg bw/day, 24 h
Inhalation		
LC50	Rat	25200 mg/m³, 4 h
Oral		
LD50	Rat	5840 mg/kg bw/day
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Zinc oxide (CAS 1314-13-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/l
Inhalation		
LC50	Mammal	2500 mg/m³
Oral		
LD50	Mouse	7950 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not likely, due to the form of the product.
Mixture versus substance information	Not available.

11.2. Information on other hazards

Endocrine disrupting properties	The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Dimethyl ether (CAS 115-10-6)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	4,4 mg/l
Fish	LC50	Fish	4,1 mg/l
Hydrocarbons, C6-C7, n-alkanes,isoalkanes,cyclics,< 5% n-hexane			
Aquatic			
Acute			
Algae	EC50	Algae	> 30 - < 100 mg/l, 72 h
Crustacea	EC50	Daphnia	3 mg/l, 48 h
Fish	LC50	Fish	11,4 mg/l, 96 h
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics			
Acute			
Other	LC50	Pseudokirchnerella subcapitata	> 1000 mg/l, 72 h
Aquatic			
Acute			
Fish	LC50	Oncorhynchus mykiss	> 1000 mg/l
Zinc oxide (CAS 1314-13-2)			
Acute			
	EC50	Selenastrum capricornutum (new name Pseudokirchnerella subca	0,137 mg/l, 72 hours
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	0,413 mg/l, 48 hours
Chronic			
Crustacea	NOEC	Daphnia magna	82 µg/l, 7 days

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)

butanone; ethyl methyl ketone	0,29
Dimethyl ether	0,1

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 The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.
GWP: 1

Substance Global Warming Potential per (Annex IV), Regulation 517/2014/EU on fluorinated greenhouse gases, as amended

Dimethyl ether (CAS 115-10-6)	1

12.8. Additional information

Estonia Dangerous substances in soil Data

butanone; ethyl methyl ketone (CAS 78-93-3)	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
zinc (CAS 7440-66-6)	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 Zinc (Zn) 500 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. Do not re-use empty containers.

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. Contents under pressure. Do not puncture, incinerate or crush. 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	UN1950
14.2. UN proper shipping name	AEROSOLS
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Hazard No. (ADR)	Not available.
Tunnel restriction code	D
ADR/RID - Classification code:	5F
14.4. Packing group	Not applicable
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1950

14.2. UN proper shipping name	AEROSOLS
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
14.4. Packing group	Not applicable
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN1950
14.2. UN proper shipping name	AEROSOLS, MARINE POLLUTANT
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
14.4. Packing group	Not applicable
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
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.

ADR; IATA; IMDG

Marine pollutant

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

zinc (CAS 7440-66-6)
Zinc oxide (CAS 1314-13-2)

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

Not listed.

Authorisations

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

butanone; ethyl methyl ketone (CAS 78-93-3)
Dimethyl ether (CAS 115-10-6)
zinc (CAS 7440-66-6)

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

butanone; ethyl methyl ketone (CAS 78-93-3)
Dimethyl ether (CAS 115-10-6)
zinc (CAS 7440-66-6)
Zinc oxide (CAS 1314-13-2)

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 Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

VOC content declaration according to directive 2004/42/EC:
Subcategory: Special finishes, Coating: All types, Maximum VOC content limit value = 840 g/l

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: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).
CAS: Chemical Abstract Service.
Ceiling: Short Term Exposure Limit Ceiling value.
CEN: European Committee for Standardization.
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
GWP: Global Warming Potential.
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.
MAK: Threshold limit values Germany (Maximale Arbeitsplatzkonzentration - DFG).
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
REACH: Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006 concerning Registration, Evaluation Authorization and Restriction of Chemicals).
RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).
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.
VOC: Volatile organic compounds.

vPvB: Very persistent and very bioaccumulative.
STEL: Short-term Exposure Limit.

References	Not available.
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 H-statements not written out in full under Sections 2 to 15	H220 Extremely flammable gas. H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H280 Contains gas under pressure; may explode if heated. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child. 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.
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