EMI 35

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 25/05/2023 Revision date: 24/03/2023 Supersedes version of: 11/03/2022 Version: 1.1

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

1.1. Product identifier

Product name	:	EMI 35
UFI	:	DY4X-78GT-U00V-X85P
Product code	:	BDS001662AE
Vaporizer	:	Aerosol

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

1.2.1. Relevant identified uses

Main use category	:	Professional use
Use of the substance/mixture	:	Conduction electric/thermal

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
CRC Industries Europe B.V.
Touwslagerstraat 1
9240 Zele
Belgium
T +32(0)52/45.60.11 - F +32(0)52/45.00.34
hse@crcind.com - www.crcind.com

1.4. Emergency telephone number

Emergency number	:	+32(0)52/45.60.11 Office hours: 9-17h CET

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Aerosol, Category 1	H222;H229
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

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

Adverse physicochemical, human health and environmental effects

Pressurised container: May burst if heated. Extremely flammable aerosol. May cause drowsiness or dizziness. Causes serious eye irritation. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07 GHS09

Signal word (CLP)	:	Danger
Contains	:	n-butyl acetate; butanone; ethyl methyl ketone; propyl acetate; 1-methoxy-2-propanol; monopropylene glycol methyl ether

Hazard statements (CLP)	:	H222 - Extremely flammable aerosol. H229 - Pressurised container: May burst if heated. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	:	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 vapours/spray. P271 - Use only outdoors or in a well-ventilated area. P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C. P501 - Dispose of contents/container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	:	EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
dimethyl ether (Propellant gas (Aerosol)) substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 115-10-6 EC-No.: 204-065-8 EC Index-No.: 603-019-00-8 REACH-no: 01-2119472128-37	25 – 50	Flam. Gas 1, H220 Press. Gas (Liq.), H280
Granulated copper substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 7440-50-8 EC-No.: 231-159-6 EC Index-No.: 029-024-00-X REACH-no: 01-2119480154-42	10 – 25	Aquatic Acute 1, H400 Aquatic Chronic 2, H411
propyl acetate substance with national workplace exposure limit(s) (GB)	CAS-No.: 109-60-4 EC-No.: 203-686-1 EC Index-No.: 607-024-00-6 REACH-no: 01-2119484620-39	10 – 25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
n-butyl acetate substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 123-86-4 EC-No.: 204-658-1 EC Index-No.: 607-025-00-1 REACH-no: 01-2119485493-29	≤ 20	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-methoxy-2-propanol; monopropylene glycol methyl ether substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 107-98-2 EC-No.: 203-539-1 EC Index-No.: 603-064-00-3 REACH-no: 01-2119457435-35	5 – 10	Flam. Liq. 3, H226 STOT SE 3, H336
butanone; ethyl methyl ketone substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3 REACH-no: 01-2119457290-43	1 – 5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
isopentyl acetate substance with a Community workplace exposure limit	CAS-No.: 123-92-2 EC-No.: 204-662-3 EC Index-No.: 607-130-00-2 REACH-no: 01-2119548408-32	< 2.5	Flam. Liq. 3, H226 EUH066
2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol	CAS-No.: 95-38-5 EC-No.: 202-414-9 REACH-no: 01-2119777867-13	< 1	Acute Tox. 4 (Oral), H302 (ATE=1265 mg/kg bodyweight) Skin Corr. 1, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Product subject to CLP Article 1.1.3.7. The disclosure rules of the components is modified in this case.
Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If signs/symptoms develop, get medical attention.

First-aid measures after skin contact : Wash skin with plenty of water. Seek medical attention if irritation develops.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Seek medical attention if irritation develops.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : Eye irritation.

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

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Extremely flammable aerosol.
Explosion hazard	:	Pressurised container: May burst if heated.
Hazardous decomposition products in case of fire	:	During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Firefighting instructions	:	Move containers from fire area if it can be done without personal risk. Use standard firefighting procedures and consider the hazards of other involved materials.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Wear appropriate protective equipment and clothing during clean-up.
Emergency procedures	:	Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

For containment	:	Collect spillage.
Methods for cleaning up	:	Mechanically recover the product. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Following product recovery, flush area with water. Take up small spills with dry chemical absorbent. Clean surface thoroughly to remove residual contamination.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For disposal of contaminated materials refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	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. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid prolonged exposure. Handle in accordance with good industrial hygiene and safety procedures.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep container closed when not in use.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

n-butyl acetate (123-86-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	n-Butyl acetate
IOEL TWA	241 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	723 mg/m³
IOEL STEL [ppm]	150 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831
United Kingdom - Occupational Exposure Limits	
Local name	Butyl acetate
WEL TWA (OEL TWA) [1]	724 mg/m³
WEL TWA (OEL TWA) [2]	150 ppm
WEL STEL (OEL STEL)	966 mg/m³
WEL STEL (OEL STEL) [ppm]	200 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

butanone; ethyl methyl ketone (78-93-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Butanone
IOEL TWA	600 mg/m³
IOEL TWA [ppm]	200 ppm
IOEL STEL	900 mg/m³
IOEL STEL [ppm]	300 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	Butan-2-one (methyl ethyl ketone)
WEL TWA (OEL TWA) [1]	600 mg/m³
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	899 mg/m³
WEL STEL (OEL STEL) [ppm]	300 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Butan-2-one (methyl ethyl ketone)

butanone; ethyl methyl ketone (78-93-3)	
BMGV	70 µmol/l Parameter: butan-2-one - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Granulated copper (7440-50-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Copper
IOEL TWA	0.01 mg/m³ (respirable fraction)
Remark	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations
United Kingdom - Occupational Exposure Limits	
Local name	Copper
WEL TWA (OEL TWA) [1]	0.2 mg/m³ fume (as Cu) 1 mg/m³ and compounds, dusts and mists (as Cu)
WEL STEL (OEL STEL)	2 mg/m³ and compounds, dusts and mists (as Cu)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

propyl acetate (109-60-4)	
United Kingdom - Occupational Exposure Limits	
Local name	n-Propyl acetate
WEL TWA (OEL TWA) [1]	849 mg/m³
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	1060 mg/m³
WEL STEL (OEL STEL) [ppm]	250 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

isopentyl acetate (123-92-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Isopentylacetate
IOEL TWA	270 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	540 mg/m³
IOEL STEL [ppm]	100 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	1-Methoxypropanol-2
IOEL TWA	375 mg/m³
IOEL TWA [ppm]	100 ppm
IOEL STEL	568 mg/m³
IOEL STEL [ppm]	150 ppm
Remark	Skin

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	1-Methoxypropan-2-ol
WEL TWA (OEL TWA) [1]	375 mg/m³
WEL TWA (OEL TWA) [2]	100 ppm
WEL STEL (OEL STEL)	560 mg/m³
WEL STEL (OEL STEL) [ppm]	150 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

dimethyl ether (115-10-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Dimethylether
IOEL TWA	1920 mg/m³
IOEL TWA [ppm]	1000 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	Dimethyl ether
WEL TWA (OEL TWA) [1]	766 mg/m³
WEL TWA (OEL TWA) [2]	400 ppm
WEL STEL (OEL STEL)	958 mg/m³
WEL STEL (OEL STEL) [ppm]	500 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

butanone; ethyl methyl ketone (78-93-3)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1161 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	600 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	31 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	106 mg/m³
Long-term - systemic effects, dermal	412 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	55.8 mg/l
PNEC aqua (marine water)	55.8 mg/l

butanone; ethyl methyl ketone (78-93-3)	
PNEC aqua (intermittent, freshwater)	55.8 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	284.74 mg/kg dwt
PNEC sediment (marine water)	284.7 mg/kg dwt
PNEC (Soil)	
PNEC soil	22.5 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	1000 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	709 mg/l

Granulated copper (7440-50-8)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	273 mg/kg bodyweight/day
Acute - local effects, inhalation	1 mg/m³
Long-term - systemic effects, dermal	137 mg/kg bodyweight/day
Long-term - local effects, inhalation	1 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	273 mg/kg bodyweight/day
Acute - local effects, inhalation	1 mg/m³
Long-term - systemic effects,oral	0.041 mg/kg bodyweight/day
Long-term - systemic effects, dermal	137 mg/kg bodyweight/day
Long-term - local effects, inhalation	1 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	7.8 µg/l
PNEC aqua (marine water)	5.2 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	87 mg/kg dwt
PNEC sediment (marine water)	676 mg/kg dwt
PNEC (Soil)	
PNEC soil	65 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	230 µg/l

propyl acetate (109-60-4)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	840 mg/m³
Long-term - local effects, inhalation	420 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	298 mg/m³

propyl acetate (109-60-4)	
Acute - local effects, inhalation	420 mg/m³
Long-term - systemic effects, inhalation	149 mg/m³
Long-term - local effects, inhalation	210 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.06 mg/l
PNEC aqua (marine water)	0.006 mg/l
PNEC aqua (intermittent, freshwater)	0.6 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.16 mg/kg dwt
PNEC sediment (marine water)	0.016 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.0215 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1 mg/l

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	553.5 mg/m³
Acute - local effects, inhalation	553.5 mg/m³
Long-term - systemic effects, dermal	183 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	369 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	33 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	43.9 mg/m³
Long-term - systemic effects, dermal	78 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	100 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	52.3 mg/kg dwt
PNEC sediment (marine water)	5.2 mg/kg dwt
PNEC (Soil)	
PNEC soil	4.59 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering 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.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Use eye protection according to EN 166. Safety glasses with side shields.

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Wear suitable gloves tested to EN374. 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.

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Approved organic vapour respirator. Filter type: A

8.2.2.4. Thermal hazards

Thermal hazard protection:
Not expected to present a significant hazard under anticipated conditions of normal use. Wear appropriate thermal protective clothing, when necessary.

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	copper.
Appearance	:	DME propelled liquid.
Odour	:	Solvent.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Extremely flammable aerosol.
Explosive properties	:	Pressurised container: May burst if heated.
Explosive limits	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	-4 °C (closed cup)
Auto-ignition temperature	:	> 150 °C
Decomposition temperature	:	Not available

pH	:	Not applicable
Viscosity, kinematic	:	Not available
Solubility	:	insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not applicable
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1.3 g/cm³ at 20 °C
Relative density	:	1.3 at 20 °C
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

% of flammable ingredients	:	75 – 100 %

9.2.2. Other safety characteristics

VOC content	:	738 g/l
Additional information	:	For aerosols data for the product without propellant.

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurised container: May burst if heated.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Carbon oxides (CO, CO2).

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met)

n-butyl acetate (123-86-4)	
LD50 oral rat	10760 mg/kg
LD50 dermal rabbit	> 17600 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	23.4 mg/l/4h

butanone; ethyl methyl ketone (78-93-3)	
LD50 oral rat	> 2193 mg/kg bodyweight
LD50 dermal	6400 mg/kg bodyweight

butanone; ethyl methyl ketone (78-93-3)	
LC50 Inhalation - Rat (Dust/Mist)	> 5000 mg/l/4h

Granulated copper (7440-50-8)	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 5.11 mg/l/4h

propyl acetate (109-60-4)	
LD50 oral rat	8700 mg/kg bodyweight
LD50 dermal rabbit	> 17800 mg/kg bodyweight
LC50 Inhalation - Rat	32 mg/l/4h

isopentyl acetate (123-92-2)	
LD50 oral	7400 mg/kg rabbit
LD50 dermal rabbit	> 5000 mg/kg bodyweight

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
LD50 oral rat	1265 mg/kg

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
LD50 oral rat	4016 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 25.8 mg/l

dimethyl ether (115-10-6)	
LC50 Inhalation - Rat	308.5 mg/l/4h
LC50 Inhalation - Rat [ppm]	164000 ppm

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

n-butyl acetate (123-86-4)	
pH	6.2

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
pH	11.1

Serious eye damage/irritation : Causes serious eye irritation.
pH: Not applicable

n-butyl acetate (123-86-4)	
pH	6.2

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
pH	11.1

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : May cause drowsiness or dizziness.

n-butyl acetate (123-86-4)	
STOT-single exposure	May cause drowsiness or dizziness.

butanone; ethyl methyl ketone (78-93-3)	
STOT-single exposure	May cause drowsiness or dizziness.

propyl acetate (109-60-4)	
STOT-single exposure	May cause drowsiness or dizziness.

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
STOT-single exposure	May cause drowsiness or dizziness.

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

n-butyl acetate (123-86-4)	
LOAEL (oral, rat, 90 days)	500 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	125 mg/kg bodyweight

propyl acetate (109-60-4)	
LOAEC (inhalation, rat, vapour, 90 days)	21409 mg/l air

isopentyl acetate (123-92-2)	
NOAEL (subchronic, oral, animal/female, 90 days)	443.07 mg/kg bodyweight

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
NOAEL (oral, rat, 90 days)	20 mg/kg bodyweight
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
LOAEL (oral, rat, 90 days)	2757 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	919 mg/kg bodyweight
NOAEL (dermal, rat/rabbit, 90 days)	> 1000 mg/kg bodyweight

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

EMI 35	
Vaporizer	Aerosol

n-butyl acetate (123-86-4)	
Viscosity, kinematic	0.83 mm²/s

isopentyl acetate (123-92-2)	
Viscosity, kinematic	1.176 mm²/s

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
Viscosity, kinematic	1.848 mm²/s

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

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

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.
Not rapidly degradable

n-butyl acetate (123-86-4)	
LC50 - Fish [1]	18 mg/l
EC50 - Crustacea [1]	44 mg/l
EC50 72h - Algae [1]	674.7 mg/l
LOEC (chronic)	47.6 mg/l
NOEC (chronic)	23.2 mg/l
NOEC chronic algae	200 mg/l

butanone; ethyl methyl ketone (78-93-3)	
LC50 - Fish [1]	2993 mg/l
EC50 - Crustacea [1]	308 mg/l
EC50 - Other aquatic organisms [1]	308 mg/l
EC50 72h - Algae [1]	1972 mg/l
EC50 96h - Algae [1]	2029 mg/l

Granulated copper (7440-50-8)	
LC50 - Fish [1]	0.193 mg/l
EC50 - Crustacea [1]	0.1 – 1 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	0.1 – 1 mg/l
NOEC chronic fish	0.188 mg/l
NOEC chronic crustacea	0.1 – 1 mg/l

propyl acetate (109-60-4)	
LC50 - Fish [1]	60 mg/l
EC50 - Crustacea [1]	91.5 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	672 mg/l

isopentyl acetate (123-92-2)	
LC50 - Fish [1]	22 – 46 mg/l
EC50 - Crustacea [1]	42 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	450 mg/l

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
LC50 - Fish [1]	0.3 mg/l
EC50 - Crustacea [1]	0.163 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	0.03 mg/l

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
LC50 - Fish [1]	6812 mg/l
LC50 - Fish [2]	20800 mg/l
EC50 - Crustacea [1]	21100 – 25900 mg/l
EC50 - Other aquatic organisms [1]	2954 mg/l
ErC50 algae	> 1000 mg/l

dimethyl ether (115-10-6)	
LC50 - Fish [1]	> 4.1 g/l
EC50 - Crustacea [1]	> 4.4 g/l Daphnia magna (Water flea)
EC50 96h - Algae [1]	154917 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

EMI 35	
Partition coefficient n-octanol/water (Log Kow)	Not applicable

n-butyl acetate (123-86-4)	
Partition coefficient n-octanol/water (Log Pow)	2.3

butanone; ethyl methyl ketone (78-93-3)	
Partition coefficient n-octanol/water (Log Pow)	0.3

Granulated copper (7440-50-8)	
Partition coefficient n-octanol/water (Log Pow)	-0.57

propyl acetate (109-60-4)	
Partition coefficient n-octanol/water (Log Pow)	1.24

isopentyl acetate (123-92-2)	
Partition coefficient n-octanol/water (Log Pow)	3.18

2-(2-heptadec-8-enyl-2-imidazoline-1-yl)ethanol (95-38-5)	
Partition coefficient n-octanol/water (Log Pow)	7.51

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
Bioconcentration factor (BCF REACH)	< 100
Partition coefficient n-octanol/water (Log Pow)	0.37

dimethyl ether (115-10-6)	
Partition coefficient n-octanol/water (Log Pow)	0.07

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

EMI 35	
Results of PBT assessment	Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Additional information : No other effects known
Global warming potential (GWP) : 0 (Fluorinated greenhouse gases - (EC) No 517/2014)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code : According to the European Waste Catalogue (EWC), Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name				
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS	AEROSOLS
Transport document description				
UN 1950 AEROSOLS, 2.1, (D), ENVIRONMENTALLY HAZARDOUS	UN 1950 AEROSOLS, 2.1, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1950 Aerosols, flammable, 2.1, ENVIRONMENTALLY HAZARDOUS	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	5F
Special provisions (ADR)	:	190, 327, 344, 625
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E0
Packing instructions (ADR)	:	P207, LP200
Special packing provisions (ADR)	:	PP87, RR6, L2
Mixed packing provisions (ADR)	:	MP9
Transport category (ADR)	:	2
Special provisions for carriage - Packages (ADR)	:	V14
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV9, CV12
Special provisions for carriage - Operation (ADR)	:	S2
Tunnel restriction code (ADR)	:	D

Transport by sea

Special provisions (IMDG)	:	63, 190, 277, 327, 344, 381, 959
Limited quantities (IMDG)	:	SP277
Excepted quantities (IMDG)	:	E0
Packing instructions (IMDG)	:	P207, LP200
Special packing provisions (IMDG)	:	PP87, L2
EmS-No. (Fire)	:	F-D
EmS-No. (Spillage)	:	S-U
Stowage category (IMDG)	:	None
Stowage and handling (IMDG)	:	SW1, SW22
Segregation (IMDG)	:	SG69

Air transport

PCA Excepted quantities (IATA)	:	E0
PCA Limited quantities (IATA)	:	Y203
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	203
PCA max net quantity (IATA)	:	75kg
CAO packing instructions (IATA)	:	203
CAO max net quantity (IATA)	:	150kg
Special provisions (IATA)	:	A145, A167, A802
ERG code (IATA)	:	10L

Inland waterway transport

Classification code (ADN)	:	5F
Special provisions (ADN)	:	190, 327, 344, 625
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E0
Equipment required (ADN)	:	PP, EX, A
Ventilation (ADN)	:	VE01, VE04
Number of blue cones/lights (ADN)	:	1

Rail transport

Classification code (RID)	:	5F
Special provisions (RID)	:	190, 327, 344, 625
Limited quantities (RID)	:	1L

Excepted quantities (RID)	:	E0
Packing instructions (RID)	:	P207, LP200
Special packing provisions (RID)	:	PP87, RR6, L2
Mixed packing provisions (RID)	:	MP9
Transport category (RID)	:	2
Special provisions for carriage – Packages (RID)	:	W14
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW9, CW12
Colis express (express parcels) (RID)	:	CE2
Hazard identification number (RID)	:	23

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : 738 g/l

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category	Threshold	Annex
Methylethylketone	Butanone	78-93-3	2914 12 00	Category 3		Annex I

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

Full text of H- and EUH-statements:	
Aerosol 1	Aerosol, Category 1
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
Skin Corr. 1	Skin corrosion/irritation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis