Safety Data Sheet
METAL PROTECTOR

Safety Data Sheet dated 6/2/2024, version 0 6/2/2024

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

1.1. Product identifier

Mixture identification:

Trade name: METAL PROTECTOR

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

Recommended use:

Spray Paint

1.3. Details of the supplier of the safety data sheet

Company:

COLORPACK s.r.l.

Via B.Cellini 26

20020 Solaro

Milano - Italia

Fax +39 029691714 Tel.+39 029690664 (8.30-17.00 from monday to friday)

Web site: www.colorpack.com E-mail: info@colorpack.com

Competent person responsible for the safety data sheet:

sharon@colorpack.com

1.4. Emergency telephone number

COLORPACK s.r.l. Tel.+39 029690664 (8.30-17.00 from monday to friday)

Centro Antiveleni - Milano - A.O. Ospedale Niguarda Ca' Granda - Piazza Ospedale Maggiore, 3 - Tel. 02 66101029

Centro Antiveleni - Bergamo - A.O. Papa Giovanni XXIII - Piazza OMS, 1 - Tel. 800.883.300

Centro Antiveleni - Pavia - Centro Nazionale di Informazione Tossicologica - Via Salvatore Maugeri, 10 - Tel. 0382 24444

Centro Antiveleni - Roma - Policlinico "A. Gemelli" - Largo A.Gemelli, 8 - Tel. 06 3054343

Centro Antiveleni - Roma - Policlinico "Umberto I" - Viale del Policlinico, 155 - Tel. 06 49978000

Centro Antiveleni pediatrico - Roma - "Ospedale Pediatrico Bambino Gesù" DEA - Piazza S.Onofrio, 4 - Tel. 06 68593726

Centro Antiveleni - Napoli - A.O. di Rilievo Nazionale "A.Cardarelli" - Via A.Cardarelli, 9 - Tel. 081 5453333

Centro Antiveleni - Firenze - A.O. "Careggi" U.O. Tossicologia Medica - Largo Brambilla, 3 - Tel. 055 7947819

Centro Antiveleni - Foggia - A.O. Universitaria - V.le Luigi Pinto, 1 - Tel. 800.183.459 / 0881 736003

Centro Antiveleni - Azienda Ospedaliera Universitaria Integrata (AOUI) di Verona - Piazzale Aristide Stefani, 1 - Tel. 800.011.858

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.

Warning, Eye Irrit. 2, Causes serious eye irritation.

Warning, STOT SE 3, May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:

Danger

Hazard statements:

H222, H229 Extremely flammable aerosol. Pressurized container: may burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.
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 dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves and eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH066 Repeated exposure may cause skin dryness or cracking.

Contains

acetone; propan-2-one; propanone
n-butyl acetate

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

>= 30% - < 40% acetone; propan-2-one; propanone

REACH No.: 01-2119471330-49, Index number: 606-001-00-8, CAS: 67-64-1, EC: 200-662-2
2.6/2 Flam. Liq. 2 H225
3.3/2 Eye Irrit. 2 H319
3.8/3 STOT SE 3 H336
EUH066

>= 20% - < 25% n-butyl acetate

REACH No.: 01-2119485493-29, Index number: 607-025-00-1, CAS: 123-86-4, EC: 204-658-1
2.6/3 Flam. Liq. 3 H226
3.8/3 STOT SE 3 H336
EUH066

>= 15% - < 20% propane

REACH No.: 01-2119486944-21, Index number: 601-003-00-5, CAS: 74-98-6, EC: 200-827-9
2.2/1A Flam. Gas 1A H220
2.5 Press. Gas H280
DECLK (CLP)*

>= 5% - < 7% butane
REACH No.: 01-2119474691-32, Index number: 601-004-00-0, CAS: 106-97-8, EC: 203-448-7
2.2/1A Flam. Gas 1A H220
2.5 Press. Gas H280
DECLK (CLP)*

>= 2.5% - < 3% isobutane
REACH No.: 01-2119485395-27, Index number: 601-004-00-0, CAS: 75-28-5, EC: 200-857-2
2.2/1A Flam. Gas 1A H220
2.5 Press. Gas H280
DECLK (CLP)*

>= 2.5% - < 3% 2-butoxyethanol; ethylene glycol monobutyl ether
REACH No.: 01-2119475108-36, Index number: 603-014-00-0, CAS: 111-76-2, EC: 203-905-0
3.1/3/Inhal Acute Tox. 3 H331
3.1/4/Oral Acute Tox. 4 H302
3.2/2 Skin Irrit. 2 H315
3.3/2 Eye Irrit. 2 H319

Acute Toxicity Estimate:
ATE - Oral 1200 mg/kg bw
ATE - Inhalation (Vapours) 3 mg/l

>= 0.3% - < 0.5% Silicon dioxide, chemically prepared [CAS-No. 112945-52-5 resp. 7631-86-9]
REACH No.: 01-2119379499-16, CAS: 7631-86-9, EC: 231-545-4
Substance with a Union workplace exposure limit.

>= 0.25% - < 0.3% xylene (mixture of isomers)
REACH No.: 01-2119488216-32, Index number: 601-022-00-9, CAS: 1330-20-7, EC: 215-535-7
2.6/3 Flam. Liq. 3 H226
3.10/1 Asp. Tox. 1 H304
3.3/2 Eye Irrit. 2 H319
3.8/3 STOT SE 3 H335
3.9/2 STOT RE 2 H373
3.2/2 Skin Irrit. 2 H315
3.1/4/Dermal Acute Tox. 4 H312
3.1/4/Inhal Acute Tox. 4 H332
4.1/C3 Aquatic Chronic 3 H412

>= 0.1% - < 0.25% 2-methoxy-1-methylethyl acetate
REACH No.: 01-2119475791-29, Index number: 607-195-00-7, CAS: 108-65-6, EC: 203-603-9
2.6/3 Flam. Liq. 3 H226
3.8/3 STOT SE 3 H336

953 ppm ethylbenzene
REACH No.: 01-2119489370-35, Index number: 601-023-00-4, CAS: 100-41-4, EC: 202-849-4
2.6/2 Flam. Liq. 2 H225
3.1/4/Inhal Acute Tox. 4 H332
3.9/2 STOT RE 2 H373
3.10/1 Asp. Tox. 1 H304

280 ppm trans-1,3,3,3-Tetrafluoroprop-1-ene
REACH No.: 01-0000019758-54, CAS: 1645-83-6, EC: 471-480-0
2.5/C Press Gas (Comp.) H280

144 ppm ethanol; ethyl alcohol

REACH No.: 01-2119457610-43, Index number: 603-002-00-5, CAS: 64-17-5, EC: 200-578-6
2.6/2 Flam. Liq. 2 H225
3.3/2 Eye Irrit. 2 H319

Specific Concentration Limits:
C >= 50%: Eye Irrit. 2 H319

32 ppm propan-2-ol; isopropyl alcohol; isopropanol
REACH No.: 01-2119457558-25, Index number: 603-117-00-0, CAS: 67-63-0, EC: 200-661-7
2.6/2 Flam. Liq. 2 H225
3.3/2 Eye Irrit. 2 H319
3.8/3 STOT SE 3 H336

*DECLK (CLP): Substance classified in accordance with Note K, Annex VI of EC Regulation (EC) 1272/2008. The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3- butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 shall apply.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Wash thoroughly the body (shower or bath).
Remove contaminated clothing immediately and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
CO2 or Dry chemical fire extinguisher.
Extinguishing media which must not be used for safety reasons:
None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

The heat causes an increase in pressure inside the container with danger of bursting. In case of fire the aerosols bursting can be projected to distance with violence, with risk of propagation of the fire.
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Remove all sources of ignition.
Remove persons to safety.
See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
See also section 8 for recommended protective equipment.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Vapours are more weighty then air. Vapours may form explosive mixture with air.
Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.
Provisions related to directive EU 2012/18 (Seveso III):
Seveso III category according to Annex 1, part 1

Product belongs to category:	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
P3a	150	500

7.3. Specific end use(s)
None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

acetone; propan-2-one; propanone - CAS: 67-64-1
EU - TWA(8h): 1210 mg/m3, 500 ppm
ACGIH - TWA(8h): 250 ppm - STEL: 500 ppm - Notes: A4, BEI - URT and eye irr, CNS impair
MAK - TWA(8h): 1200 mg/m3, 500 ppm - STEL: 2400 mg/m3, 1000 ppm - Notes: SWISS
National - TWA(8h): 1210 mg/m3, 500 ppm - STEL: 3620 mg/m3, 1500 ppm - Notes: HR - CROATIA

n-butyl acetate - CAS: 123-86-4
ACGIH - TWA(8h): 50 ppm - STEL: 150 ppm - Notes: Eye and URT irr
MAK - TWA(8h): 480 mg/m3, 100 ppm - STEL: 960 mg/m3, 200 ppm - Notes: GERMANY
GVI - TWA(8h): 724 mg/m3, 150 ppm - STEL: 966 mg/m3, 200 ppm - Notes: CROATIA
VLA - TWA(8h): 724 mg/m3, 150 ppm - STEL: 965 mg/m3, 200 ppm - Notes: SPAIN
TLV - TWA(8h): 950 mg/m3 - STEL: 1200 mg/m3 - Notes: CZECH REPUBLIC
VLEP - TWA(8h): 710 mg/m3, 150 ppm - STEL: 940 mg/m3, 200 ppm - Notes: FRANCE
National - TWA(8h): 724 mg/m3, 150 ppm - STEL: 966 mg/m3, 200 ppm - Notes: UNITED KINGDOM
MAK - TWA(8h): 480 mg/m3, 100 ppm - STEL: 960 mg/m3, 200 ppm - Notes: SWISS
EU - TWA(8h): 241 mg/m3, 50 ppm - STEL: 723 mg/m3, 150 ppm

propane - CAS: 74-98-6
EU - TWA(8h): 1800 mg/m3, 1000 ppm
TLV - TWA(8h): 1800 mg/m3, 1000 ppm - STEL: 3600 mg/m3, 2000 ppm - Notes: AUSTRIA, DENMARK
TLV - TWA(8h): 1500 mg/m3, 800 ppm - STEL: 2000 mg/m3, 1100 ppm - Notes: FINLAND
TLV - TWA(8h): 1400 mg/m3, 778 ppm - STEL: 1800 mg/m3, 1000 ppm - Notes: ROMANIA
TLV - TWA(8h): 1800 mg/m3, 1000 ppm - STEL: 7200 mg/m3, 4000 ppm - Notes: GERMANY
MAK - TWA(8h): 1800 mg/m3, 1000 ppm - STEL: 7200 mg/m3, 4000 ppm - Notes: SWISS
ACGIH - Notes: (D, EX) - Asphyxia

butane - CAS: 106-97-8
EU - TWA(8h): 1450 mg/m3, 600 ppm - STEL: 1810 mg/m3, 750 ppm
TLV - TWA(8h): 1600 mg/m3, 800 ppm - STEL: 3800 mg/m3, 1600 ppm - Notes: AUSTRIA, DENMARK
TLV - TWA(8h): 1900 mg/m3, 800 ppm - STEL: 2400 mg/m3, 1000 ppm - Notes: FINLAND
TLV - TWA(8h): 1900 mg/m3, 800 ppm - Notes: FRANCE
TLV - TWA(8h): 2400 mg/m3, 1000 ppm - STEL: 9600 mg/m3, 4000 ppm - Notes: GERMANY
MAK - TWA(8h): 1900 mg/m3, 800 ppm - STEL: 7600 mg/m3, 3200 ppm - Notes: SWISS
ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

isobutane - CAS: 75-28-5
EU - TWA(8h): 2400 mg/m3, 1000 ppm - STEL: 9600 mg/m3, 4000 ppm
TLV - TWA(8h): 1900 mg/m3, 800 ppm - STEL: 2400 mg/m3, 1000 ppm - Notes: FINLAND
MAK - TWA(8h): 1900 mg/m3, 800 ppm - STEL: 7600 mg/m3, 3200 ppm - Notes: SWISS
ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
EU - TWA(8h): 98 mg/m3, 20 ppm - STEL: 246 mg/m3, 50 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: A3, BEI - Eye and URT irr
MAK - TWA(8h): 49 mg/m3, 10 ppm - STEL: 98 mg/m3, 20 ppm - Notes: SWISS
MAK - TWA(8h): 98 mg/m3, 20 ppm - STEL(): 200 mg/m3, 40 ppm - Notes: AUSTRIA
TLV - TWA(8h): 100 mg/m3 - STEL(): 200 mg/m3 - Notes: CZECH REPUBLIC
MAK - TWA(8h): 49 mg/m3, 10 ppm - STEL(): 98 mg/m3, 20 ppm - Notes: GERMANY
VLEP - TWA(8h): 49 mg/m3, 10 ppm - STEL(): 246 mg/m3, 50 ppm - Notes: FRANCE
National - TWA(8h): 123 mg/m3, 25 ppm - STEL(): 246 mg/m3, 50 ppm - Notes: UNITED KINGDOM: Skin
National - TWA(8h): 98 mg/m3, 20 ppm - STEL(): 245 mg/m3, 50 ppm - Notes: SPAIN
Silicon dioxide, chemically prepared [CAS-No. 112945-52-5 resp. 7631-86-9] - CAS: 7631-86-9
EU - TWA(8h): 3 mg/m3 - Notes: Type of exposure: Respirable Particles (IT)
EU - TWA(8h): 10 mg/m3 - Notes: Type of exposure: Inhalable particles (IT)
MAK - TWA(8h): 4 mg/m3 - Notes: SWISS, SSc
xylene (mixture of isomers) - CAS: 1330-20-7
EU - TWA(8h): 221 mg/m3, 50 ppm - STEL: 442 mg/m3, 100 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: A4, BEI - URT and eye irr; hematologic eff; CNS impair
MAK - TWA(8h): 435 mg/m3, 100 ppm - STEL: 870 mg/m3, 200 ppm - Notes: CH - SWISS
2-methoxy-1-methylethyl acetate - CAS: 108-65-6
EU - TWA(8h): 275 mg/m3, 50 ppm - STEL: 550 mg/m3, 100 ppm - Notes: Skin
MAK - TWA(8h): 275 mg/m3, 50 ppm - STEL: 275 mg/m3, 50 ppm - Notes: SWISS
MAK - TWA(8h): 270 mg/m3, 50 ppm - STEL: 270 mg/m3, 50 ppm - Notes: GERMANY
National - TWA(8h): 274 mg/m3, 50 ppm - STEL: 548 mg/m3, 100 ppm - Notes: GREAT BRITAIN
ethylbenzene - CAS: 100-41-4
EU - TWA(8h): 442 mg/m3, 100 ppm - STEL: 884 mg/m3, 200 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: OTO; A3, BEI - URT & eye irr; ototoxicity; kidney eff; CNS impair
MAK - TWA(8h): 220 mg/m3, 50 ppm - STEL: 220 mg/m3, 50 ppm - Notes: SWISS
National - TWA(8h): 442 mg/m3, 100 ppm - STEL: 884 mg/m3, 200 ppm - Notes: CROATIA - K (Skin)
trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
EU - TWA(8h): 4700 mg/m3, 1000 ppm - STEL: 9400 mg/m3, 2000 ppm
MAK - TWA(8h): 4700 mg/m3, 1000 ppm - STEL: 9400 mg/m3, 2000 ppm - Notes: SWISS
ethanol; ethyl alcohol - CAS: 64-17-5
ACGIH - STEL: 1000 ppm - Notes: A3 - URT irr
MAK - TWA(8h): 960 mg/m3, 500 ppm - STEL: 1920 mg/m3, 1000 ppm - Notes: SWISS - CH
MAK - TWA(8h): 960 mg/m3, 500 ppm - STEL: 1920 mg/m3, 1000 ppm - Notes: GERMANY - DE
GVI - TWA(8h): 1900 mg/m3, 100 ppm - Notes: CROATIA - HR
VLA - STEL: 1910 mg/m3, 1000 ppm - Notes: SPAIN - ES
VLEP - TWA(8h): 1900 mg/m3, 1000 ppm - STEL: 9500 mg/m3, 5000 ppm - Notes: FRANCE - FR
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair
MAK - TWA(8h): 500 mg/m3, 200 ppm - STEL: 1000 mg/m3, 400 ppm - Notes: SWISS
GVI - TWA(8h): 999 mg/m3, 400 ppm - STEL: 1250 mg/m3, 500 ppm - Notes: CROATIA
VLA - TWA(8h): 500 mg/m3, 200 ppm - STEL: 1000 mg/m3, 440 ppm - Notes: SPAIN - VLB, s
TLV - TWA(8h): 500 mg/m3 - STEL: 1000 mg/m3 - Notes: CZECH REPUBLIC
MAK - TWA(8h): 500 mg/m3, 200 ppm - STEL: 1000 mg/m3, 400 ppm - Notes: GERMANY

VLEP - STEL: 980 mg/m3, 400 ppm - Notes: FRANCE
National - TWA(8h): 999 mg/m3, 400 ppm - STEL: 1250 mg/m3, 500 ppm - Notes: UNITED KINGDOM

DNEL Exposure Limit Values

acetone; propan-2-one; propanone - CAS: 67-64-1
Worker Industry: 186 mg/kg - Worker Professional: 186 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 2420 mg/m3 - Worker Professional: 2420 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 1210 mg/m3 - Worker Professional: 1210 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 62 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Consumer: 62 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 200 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

n-butyl acetate - CAS: 123-86-4
Worker Industry: 600 mg/m3 - Worker Professional: 600 mg/m3 - Consumer: 300 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 300 mg/m3 - Worker Professional: 300 mg/m3 - Consumer: 35.7 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 11 mg/kg - Worker Professional: 11 mg/kg - Consumer: 6 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 2 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
Worker Industry: 89 mg/kg - Consumer: 89 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects
Worker Industry: 1091 mg/m3 - Consumer: 426 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 246 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 125 mg/kg - Consumer: 75 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 98 mg/m3 - Consumer: 59 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 26.7 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Silicon dioxide, chemically prepared [CAS-No. 112945-52-5 resp. 7631-86-9] - CAS: 7631-86-9
Worker Industry: 4 mg/m3 - Worker Professional: 4 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 4 mg/m3 - Worker Professional: 4 mg/m3 - Frequency: Long Term, systemic effects

xylene (mixture of isomers) - CAS: 1330-20-7
Worker Industry: 442 mg/m3 - Worker Professional: 442 mg/m3 - Consumer: 260 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 221 mg/m3 - Worker Professional: 221 mg/m3 - Consumer: 65.3 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 212 mg/kg - Worker Professional: 212 mg/kg - Consumer: 125 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 12.5 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

2-methoxy-1-methylethyl acetate - CAS: 108-65-6
Consumer: 36 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Industry: 275 mg/m3 - Worker Professional: 275 mg/m3 - Consumer: 33 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 796 mg/kg - Worker Professional: 796 mg/kg - Consumer: 320 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 550 mg/m3 - Worker Professional: 550 mg/m3 - Exposure: Human

Inhalation - Frequency: Short Term, local effects
Consumer: 500 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects

ethylbenzene - CAS: 100-41-4
Worker Industry: 77 mg/m3 - Worker Professional: 77 mg/m3 - Consumer: 15 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 293 mg/m3 - Worker Professional: 293 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 180 mg/kg - Worker Professional: 180 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 1.6 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
Worker Industry: 3902 mg/m3 - Worker Professional: 3902 mg/m3 - Consumer: 830 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

ethanol; ethyl alcohol - CAS: 64-17-5
Worker Industry: 950 mg/m3 - Worker Professional: 950 mg/m3 - Consumer: 114 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 343 mg/kg - Worker Professional: 343 mg/kg - Consumer: 206 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 87 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Industry: 1900 mg/m3 - Worker Professional: 1900 mg/m3 - Consumer: 950 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
Worker Industry: 500 mg/m3 - Worker Professional: 500 mg/m3 - Consumer: 89 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 888 mg/kg - Worker Professional: 888 mg/kg - Consumer: 319 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Industry: 1000 mg/m3 - Worker Professional: 1000 mg/m3 - Consumer: 178 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Consumer: 51 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects

PNEC Exposure Limit Values

acetone; propan-2-one; propanone - CAS: 67-64-1
Target: Freshwater sediments - Value: 30.4 mg/kg
Target: Marine water sediments - Value: 3.04 mg/kg
Target: Soil (agricultural) - Value: 29.5 mg/kg
Target: Fresh Water - Value: 10.6 mg/l
Target: Marine water - Value: 1.06 mg/l

n-butyl acetate - CAS: 123-86-4
Target: Fresh Water - Value: 0.18 mg/l
Target: Marine water - Value: 0.018 mg/l
Target: Freshwater sediments - Value: 0.981 mg/kg
Target: Marine water sediments - Value: 0.098 mg/kg
Target: Soil (agricultural) - Value: 0.09 mg/kg

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
Target: Freshwater sediments - Value: 34.6 mg/kg
Target: Marine water sediments - Value: 3.46 mg/kg
Target: Soil (agricultural) - Value: 2.33 mg/kg
Target: Fresh Water - Value: 8.8 mg/l
Target: Marine water - Value: 0.88 mg/l

xylene (mixture of isomers) - CAS: 1330-20-7
Target: Fresh Water - Value: 0.327 mg/l
Target: Marine water - Value: 0.327 mg/l
Target: Freshwater sediments - Value: 12.46 mg/kg
Target: Marine water sediments - Value: 12.46 mg/kg
Target: Soil (agricultural) - Value: 2.31 mg/l

2-methoxy-1-methylethyl acetate - CAS: 108-65-6
Target: Fresh Water - Value: 0.635 mg/l

Target: Freshwater sediments - Value: 3.29 mg/kg
Target: Marine water sediments - Value: 0.329 mg/kg
Target: Microorganisms in sewage treatments - Value: 100 mg/l
ethylbenzene - CAS: 100-41-4
Target: Fresh Water - Value: 0.1 mg/l
Target: Marine water - Value: 0.01 mg/l
Target: Freshwater sediments - Value: 13.7 mg/kg
Target: Marine water sediments - Value: 1.37 mg/kg
Target: Soil (agricultural) - Value: 2.68 mg/kg
trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
Target: Fresh Water - Value: 0.117 mg/l
ethanol; ethyl alcohol - CAS: 64-17-5
Target: Fresh Water - Value: 0.96 mg/l
Target: Marine water - Value: 0.79 mg/l
Target: Soil (agricultural) - Value: 0.63 mg/kg
Target: Freshwater sediments - Value: 3.6 mg/kg
Target: Marine water sediments - Value: 2.9 mg/kg
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
Target: Food chain - Value: 160 mg/kg
Target: Fresh Water - Value: 140.9 mg/l
Target: Marine water - Value: 140.9 mg/l
Target: Freshwater sediments - Value: 552 mg/kg
Target: Soil (agricultural) - Value: 28 mg/kg

Biological Exposure Index
acetone; propan-2-one; propanone - CAS: 67-64-1
Value: 25 mg/L - medium: Urine - Biological Indicator: Acetone in urine - Sampling Period: End of turn

8.2. Exposure controls

Eye protection:
Eye glasses with side protection.

Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:
Use adequate protective respiratory equipment.

Thermal Hazards:
None

Environmental exposure controls:
None

Appropriate engineering controls:
None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Physical state:	Liquid	--	--
Colour:	Colourless	--	--
Odour:	Characteristic	--	--
Melting point/freezing point:	N.A.	--	--

Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	Flammable	--	--
Lower and upper explosion limit:	1.8 ÷ 9.5 % Vol.	--	--
Flash point:	<0 °C	--	--
Auto-ignition temperature:	>400 °C	--	--
Decomposition temperature:	N.A.	--	--
pH:	Not Relevant	--	--
Kinematic viscosity:	>20,5mm2/s (40 °C)	--	--
Solubility in water:	NO	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	4.5 bar +/- 0. 5 20 °C	--	--
Density and/or relative density:	0.75 +/- 0.05	--	--
Relative vapour density:	>1 (air=1)	--	--
Deformation Pressure:	15 bar	--	--
Explosion Pressure:	16 ÷ 20 bar	--	--
Volatile organic compounds - VOC	650 g/l	--	--
Volatile organic compounds - VOC	86.5 %	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials
Avoid contact with combustible materials. The product could catch fire.
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Toxicological information of the product:
METAL PROTECTOR
a) acute toxicity
Not classified
Based on available data, the classification criteria are not met
b) skin corrosion/irritation
Not classified
Based on available data, the classification criteria are not met
c) serious eye damage/irritation
The product is classified: Eye Irrit. 2 H319
d) respiratory or skin sensitisation
Not classified
Based on available data, the classification criteria are not met
e) germ cell mutagenicity
Not classified
Based on available data, the classification criteria are not met
f) carcinogenicity
Not classified
Based on available data, the classification criteria are not met
g) reproductive toxicity
Not classified
Based on available data, the classification criteria are not met
h) STOT-single exposure
The product is classified: STOT SE 3 H336
i) STOT-repeated exposure
Not classified
Based on available data, the classification criteria are not met
j) aspiration hazard
Not classified
Based on available data, the classification criteria are not met
Toxicological information of the main substances found in the product:
acetone; propan-2-one; propanone - CAS: 67-64-1
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 5800 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit = 7400 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat = 76 mg/l - Duration: 4h
b) skin corrosion/irritation:
Test: Skin Irritant Positive
c) serious eye damage/irritation:
Test: Eye Irritant Positive
n-butyl acetate - CAS: 123-86-4
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 10760 mg/kg - Source: (FEMALE)
Test: LD50 - Route: Skin - Species: Rabbit = 14112 mg/kg - Source: OCSE 402

Test: LC50 - Route: Inhalation - Species: Rat > 21 mg/l - Duration: 4h - Source: OCSE 403

propane - CAS: 74-98-6

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat = 800000 ppm - Duration: 15MIN

Test: LC50 - Route: Inhalation - Species: Rat = 14442738 mg/m3 - Duration: 15MIN

Test: LC50 - Route: Inhalation - Species: Rat = 1443 mg/l - Duration: 15MIN

Test: LC50 - Route: Inhalation - Species: Mouse = 260000 ppm - Duration: 4h

e) germ cell mutagenicity:

Test: Mutagenesis Negative - Notes: METHOD: OECD 471

Test: Mutagenesis Negative - Notes: METHOD: OECD 474

Test: NOAEL - Route: Inhalation - Species: Rat = 21641 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

g) reproductive toxicity:

Test: NOAEL - Route: Inhalation - Species: Rat = 21641 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

i) STOT-repeated exposure:

Test: NOAEL - Route: Inhalation Gas - Species: Rat = 7.214 mg/l - Duration: 24H

butane - CAS: 106-97-8

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat = 658 mg/l - Duration: 4h

Test: LC50 - Route: Inhalation - Species: Rat = 274200 ppm - Duration: 4h

e) germ cell mutagenicity:

Test: Mutagenesis Negative - Notes: METHOD: OECD 473

Test: Mutagenesis Negative - Notes: METHOD: OECD 474

Test: NOAEL - Route: Inhalation - Species: Rat = 21394 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

g) reproductive toxicity:

Test: NOAEL - Route: Inhalation - Species: Rat = 21394 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

i) STOT-repeated exposure:

Test: NOAEL - Route: Inhalation Gas - Species: Rat = 21394 mg/l - Duration: 24H - Notes: METHOD: OECD 422

Test: NOAEL - Route: Inhalation Gas - Species: Rat = 4000-16000 mg/l - Duration: 6H

isobutane - CAS: 75-28-5

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat = 658 mg/l - Duration: 4h

Test: LC50 - Route: Inhalation - Species: Mouse = 260000 ppm - Duration: 4h

e) germ cell mutagenicity:

Test: Mutagenesis Negative

Test: Mutagenesis Negative - Notes: METHOD: OECD 474

Test: NOAEL - Route: Inhalation - Species: Rat = 21394 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

g) reproductive toxicity:

Test: NOAEL - Route: Inhalation - Species: Rat = 7131 mg/l - Duration: 24H - Notes: METHOD: OECD TG 422

i) STOT-repeated exposure:

Test: NOAEL - Route: Inhalation Gas - Species: Rat = 21.394 mg/l - Duration: 24H - Notes: METHOD: OECD 422

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

a) acute toxicity

ATE - Oral 1200 mg/kg bw

ATE - Inhalation (Vapours) 3 mg/l

Test: LD50 - Route: Oral - Species: Rat = 1300 ml/kg

Test: LC50 - Route: Inhalation - Species: Rat 450-900 mg/kg - Duration: 4h

Test: LD50 - Route: Skin - Species: Rabbit 435-2000 mg/kg

Silicon dioxide, chemically prepared [CAS-No. 112945-52-5 resp. 7631-86-9] - CAS: 7631-86-9

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 0.139 mg/l - Duration: 4h
xylene (mixture of isomers) - CAS: 1330-20-7
a) acute toxicity:
Test: LC50 - Route: Inhalation Vapour - Species: Rat = 27124 mg/l - Duration: 4h
Test: LD50 - Route: Oral - Species: Rat = 3523 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 12126 mg/kg
2-methoxy-1-methylethyl acetate - CAS: 108-65-6
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 23.5 mg/l
ethylbenzene - CAS: 100-41-4
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit = 17800 mg/kg
Test: LD50 - Route: Oral - Species: Rat = 3500 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat = 4000 mg/l - Duration: 4h
trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 207000 ppm - Duration: 4h
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative - Notes: METHOD: OECD 404
e) germ cell mutagenicity:
Test: Genotoxicity Negative
Test: Genotoxicity Negative
Test: Genotoxicity - Route: Inhalation - Species: Mouse Negative
i) STOT-repeated exposure:
Test: NOAEL - Route: Inhalation - Species: Rat = 5000 ppm - Notes: 13 weeks
ethanol; ethyl alcohol - CAS: 64-17-5
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 10470 mg/kg - Duration: 24H
Test: LC50 - Route: Inhalation Vapour - Species: Rat = 124.7 mg/l - Duration: 4h
Test: LD50 - Route: Skin - Species: Rabbit = 17100 mg/kg
g) reproductive toxicity:
Test: NOAEL - Species: Rat = 20700 mg/kg - Duration: 24H
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 5840 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit = 13900 ml/kg
Test: LC50 - Route: Inhalation Vapour - Species: Rat > 10000 ppm - Duration: 6H
b) skin corrosion/irritation:
Test: Skin Irritant - Species: Rabbit Negative
c) serious eye damage/irritation:
Test: Eye Irritant - Species: Rabbit Positive
g) reproductive toxicity:
Test: Reproductive Toxicity - Route: Oral - Species: Rabbit = 480 mg/kg

11.2. Information on other hazards
Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.

WGK: 1

METAL PROTECTOR
Not classified for environmental hazards
Based on available data, the classification criteria are not met
acetone; propan-2-one; propanone - CAS: 67-64-1
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae = 530 mg/l - Notes: 8 d
Endpoint: LC50 - Species: Fish = 8120 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia = 8800 mg/l - Duration h: 48
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Daphnia = 2212 mg/l - Notes: 28 d
n-butyl acetate - CAS: 123-86-4
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia = 44 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae = 675 mg/l - Duration h: 72
Endpoint: LC50 - Species: Fish = 18 mg/l - Duration h: 96 - Notes: OECD 203
propane - CAS: 74-98-6
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 49.47 mg/l
Endpoint: EC50 - Species: Daphnia = 27.14 mg/l
Endpoint: EC50 - Species: Algae = 11.89 mg/l
butane - CAS: 106-97-8
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 24.11 mg/l - Duration h: 96
Endpoint: LC50 - Species: Daphnia = 14.22 mg/l - Duration h: 48
isobutane - CAS: 75-28-5
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 24.11-147.54 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia = 14.22-69.43 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae = 7.71-19.37 mg/l
2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia = 1550 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae = 91840 mg/l - Duration h: 72
Endpoint: LC50 - Species: Fish = 1474 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Fish > 100 mg/l - Notes: 21 d
Endpoint: NOEC - Species: Daphnia = 100 mg/l - Notes: 21 d
Silicon dioxide, chemically prepared [CAS-No. 112945-52-5 resp. 7631-86-9] - CAS: 7631-86-9
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia > 1000 mg/l - Duration h: 24
Endpoint: LC50 - Species: Fish = 10000 mg/l - Duration h: 96
Endpoint: EC50 - Species: Algae > 10000 mg/l - Duration h: 72
xylene (mixture of isomers) - CAS: 1330-20-7
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 2.6 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia = 1 mg/l - Duration h: 24
Endpoint: EC50 - Species: Algae = 1.3 mg/l - Duration h: 72
2-methoxy-1-methylethyl acetate - CAS: 108-65-6
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 134 mg/l - Duration h: 96
Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 72
Endpoint: EC50 - Species: Daphnia > 500 mg/l - Duration h: 48
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Daphnia > 100 mg/l - Notes: 21 d
ethylbenzene - CAS: 100-41-4
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia = 75 mg/l - Duration h: 48 - Notes: Daphnia magna
Endpoint: LC50 - Species: Fish = 48.5 mg/l - Duration h: 96 - Notes: Phimephales

trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
a) Aquatic acute toxicity:
Endpoint: NOEC - Species: Fish > 117 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia > 160 mg/l - Duration h: 48
Endpoint: NOEC - Species: Algae > 170 mg/l - Duration h: 72
ethanol; ethyl alcohol - CAS: 64-17-5
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 11200 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia > 5012 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae > 4432 mg/l - Notes: 7 d
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Daphnia = 9.6 mg/l - Notes: 9 d
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 9640 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia = 10000 mg/l - Duration h: 24
c) Bacteria toxicity:
Endpoint: EC50 = 1050 mg/l
e) Plant toxicity:
Endpoint: EC50 - Species: Algae > 1800 mg/l - Duration h: 168

12.2. Persistence and degradability

None
acetone; propan-2-one; propanone - CAS: 67-64-1
Biodegradability: Readily biodegradable
n-butyl acetate - CAS: 123-86-4
Biodegradability: Readily biodegradable
propane - CAS: 74-98-6
Biodegradability: Readily biodegradable
butane - CAS: 106-97-8
Biodegradability: Readily biodegradable
isobutane - CAS: 75-28-5
Biodegradability: Readily biodegradable
2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
Biodegradability: Readily biodegradable
2-methoxy-1-methylethyl acetate - CAS: 108-65-6
Biodegradability: Readily biodegradable
trans-1,3,3,3-Tetrafluoroprop-1-ene - CAS: 1645-83-6
Biodegradability: Non-readily biodegradable
ethanol; ethyl alcohol - CAS: 64-17-5
Biodegradability: Readily biodegradable
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
Biodegradability: Readily biodegradable

12.3. Bioaccumulative potential

acetone; propan-2-one; propanone - CAS: 67-64-1
Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentrantion factor 3
Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.24
n-butyl acetate - CAS: 123-86-4
Test: BCF - Bioconcentrantion factor 15.3
Test: Kow - Partition coefficient 2.3 - Notes: n-octanol/water
propane - CAS: 74-98-6
Bioaccumulation: Bioaccumulative - Test: Kow - Partition coefficient 2.35
butane - CAS: 106-97-8
Bioaccumulation: Bioaccumulative - Test: Kow - Partition coefficient 2.89
isobutane - CAS: 75-28-5
Test: Kow - Partition coefficient 2.88
2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2
Test: Kow - Partition coefficient 0.81 - Notes: 1-OCTANOL/WATER
2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Bioaccumulation: Not bioaccumulative
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.05 - Notes: OECD 107

12.4. Mobility in soil
N.A.
12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None
12.6. Endocrine disrupting properties
No endocrine disruptor substances present in concentration >= 0.1%
12.7. Other adverse effects
None

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

Additional disposal information:
WASTE CODE = 160504

SECTION 14: Transport information

14.1. UN number or ID number

ADR-UN number:	1950
IATA-Un number:	1950
IMDG-Un number:	1950

14.2. UN proper shipping name

ADR-Shipping Name:	AEROSOLS
IATA-Shipping Name:	AEROSOLS, flammable
IMDG-Shipping Name:	AEROSOLS

14.3. Transport hazard class(es)

ADR-Class:	2 - 5F
ADR-Label:	2.1
IATA-Class:	2.1
IATA-Label:	2.1
IMDG-Class:	2.1

14.4. Packing group

ADR-Packing Group:	-
IATA-Packing group:	-
IMDG-Packing group:	-

14.5. Environmental hazards

Marine pollutant:	No
IMDG-EMS:	F-D S-U

14.6. Special precautions for user
ADR-Transport category (Tunnel restriction code): D

ADR-Limited Quantity (LQ):	1 L
IATA-Passenger Aircraft:	Forbidden
IATA-Cargo Aircraft:	203
IMDG-Shipping Name:	AEROSOLS

14.7. Maritime transport in bulk according to IMO instruments
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:
Restriction 3
Restriction 40

Restrictions related to the substances contained:
Restriction 70
Restriction 75

Where applicable, refer to the following regulatory provisions :
Directive 2012/18/EU (Seveso III)
Regulation (EC) nr 648/2004 (detergents).
Dir. 2004/42/EC (VOC directive)
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Provisions related to directive EU 2012/18 (Seveso III):
Seveso III category according to Annex 1, part 1
Product belongs to category: P3a

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out for the mixture.
Substances for which a Chemical Safety Assessment has been carried out:
n-butyl acetate
2-butoxyethanol; ethylene glycol monobutyl ether
xylene (mixture of isomers)
2-methoxy-1-methylethyl acetate
propan-2-ol; isopropyl alcohol; isopropanol

15.3. VOC

Volatile organic compounds - VOCs = 650 g/l
Volatile organic compounds - VOCs = 86.5 %

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.
H226 Flammable liquid and vapour.
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H331 Toxic if inhaled.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H304 May be fatal if swallowed and enters airways.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure.

Hazard class and hazard category	Code	Description
Flam. Gas 1A	2.2/1A	Flammable gas, Category 1A
Aerosols 1	2.3/1	Aerosol, Category 1
Press. Gas	2.5	Gases under pressure
Press Gas (Comp.)	2.5/C	Gases under pressure (Compressed gas)
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 3	3.1/3/Inhal	Acute toxicity (inhalation), Category 3
Acute Tox. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Aerosols 1, H222, H229	On basis of test data
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H336	Calculation method

This document was prepared by a competent person who has received appropriate training.
Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.