

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2020/878

Article No.: 766
Print date: 27.12.2022
Version: 3.0

MET-FLAKE Effekt-Spray
Revision date: 10.12.2022
Issue date: 10.12.2022

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

1.1. product identifiers

Article No. (manufacturer/supplier) 766
Trade name/designation MET-FLAKE Effekt-Spray
UFI: D18V-P52N-Y99X-HFXF

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

1.3. Details of the supplier of the safety data sheet

supplier (manufacturer/importer/downstream user/distributor)
Vismara Unternehmungen CH-5000 Aarau www.farbladen.ch

Department responsible for information:

laboratory Manager
E-mail (competent person) info@knuchel.ch

1.4. Emergency telephone number

Emergency telephone number 145 (+41 (0)44 251 51 51)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Aerosol 1 / H222	Aerosol	Extremely flammable aerosol.
Aerosol 1 / H229	Aerosol	Pressurised container: May burst if heated.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.

2.2. Label elements

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

Hazard pictograms



Danger

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised 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.
P103 Read carefully and follow all instructions.
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.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves and eye/face protection.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Keep locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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P501 Dispose of contents/container to industrial incineration plant.

Hazard components for labelling

Ethyl acetate

Supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description solvent-based alkyd resin, containing the following hazardous substances:

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

EC No. CAS No. Index No.	REACH No. Designation classification // Remark	weight-%
205-500-4 141-78-6	01-2119475103-46 Ethyl acetate	15 - 25
607-022-00-5 200-662-2 67-64-1	Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336 / EUH066 01-2119471330-49 Acetone	15 - 25
606-001-00-8 204-658-1 123-86-4	Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336 / EUH066 01-2119485493-29 n-butyl acetate	5 - 10
607-025-00-1 203-603-9 108-65-6	Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066 01-2119475791-29 2-methoxy-1-methylethyl acetate	5 - 10
607-195-00-7	Flam. Liq. 3 H226 Substance with a common (EC) occupational exposure limit value.	

Additional information

Full text of classification: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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Suitable extinguishing media

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

Unsuitable extinguishing media

strong water jet

5.2. Special hazards arising from the substance or mixture

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

Further information

Vapours are heavier than air. Vapours form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values:

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Ethyl acetate

Index No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

WEL, TWA: 734 mg/m³; 200 ppm
WEL, STEL: 1468 mg/m³; 400 ppm

Acetone

Index No. 606-001-00-8 / EC No. 200-662-2 / CAS No. 67-64-1

WEL, TWA: 1210 mg/m³; 500 ppm
WEL, STEL: 3620 mg/m³; 1500 ppm

2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6

WEL, TWA: 274 mg/m³; 50 ppm
WEL, STEL: 548 mg/m³; 100 ppm

Remark: (may be absorbed through the skin)

Additional information

TWA : Long-term occupational exposure limit value

STEL : short-term occupational exposure limit value

Ceiling : peak limitation

DNEL:

Ethyl acetate

Index No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

DNEL long-term dermal (systemic), Workers: 63 mg/kg
DNEL acute inhalative (local), Workers: 1468 mg/m³
DNEL acute inhalative (systemic), Workers: 1468 mg/m³
DNEL long-term inhalative (local), Workers: 734 mg/m³
DNEL long-term inhalative (systemic), Workers: 734 mg/m³
DNEL long-term oral (repeated), Consumer: 4,5 mg/kg
DNEL long-term dermal (systemic), Consumer: 37 mg/kg bw/day
DNEL acute inhalative (local), Consumer: 734 mg/m³
DNEL acute inhalative (systemic), Consumer: 734 mg/m³
DNEL long-term inhalative (local), Consumer: 367 mg/m³
DNEL long-term inhalative (systemic), Consumer: 367 mg/m³

Acetone

Index No. 606-001-00-8 / EC No. 200-662-2 / CAS No. 67-64-1

DNEL long-term dermal (systemic), Workers: 186 mg/kg bw/day
DNEL acute inhalative (local), Workers: 2420 mg/m³
DNEL long-term inhalative (systemic), Workers: 1210 mg/m³
DNEL long-term oral (repeated), Consumer: 62 mg/kg bw/day
DNEL long-term dermal (systemic), Consumer: 62 mg/kg bw/day
DNEL long-term inhalative (systemic), Consumer: 200 mg/m³

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

DNEL short-term oral (acute), Workers:
DNEL long-term inhalative (systemic), Workers: 480 mg/m³
DNEL long-term inhalative (systemic), Consumer: 102,34 mg/m³

2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6

DNEL long-term oral (repeated), Workers: 1,67 mg/kg
DNEL long-term dermal (systemic), Workers: 54,8 mg/kg
DNEL long-term inhalative (systemic), Workers: 33 mg/m³

PNEC:

Ethyl acetate

Index No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

PNEC aquatic, freshwater: 0,24 mg/L
PNEC aquatic, marine water: 0,024 mg/L
PNEC aquatic, intermittent release: 1,65 mg/L
PNEC sediment, freshwater: 1,15 mg/kg
PNEC sediment, marine water: 0,115 mg/kg

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PNEC, soil: 0,148 mg/kg
PNEC sewage treatment plant (STP): 650 mg/L
PNEC Secondary Poisoning: 200 mg/kg food

Acetone

Index No. 606-001-00-8 / EC No. 200-662-2 / CAS No. 67-64-1

PNEC aquatic, freshwater: 10,6 mg/L
PNEC aquatic, marine water: 1,06 mg/L
PNEC aquatic, intermittent release: 21 mg/L
PNEC sediment, freshwater: 30,4 mg/kg
PNEC sediment, marine water: 3,04 mg/kg
PNEC, soil: 29,5 mg/kg
PNEC sewage treatment plant (STP): 100 mg/L

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

PNEC aquatic, freshwater: 0,18 mg/L
PNEC aquatic, marine water: 0,018 mg/L
PNEC aquatic, intermittent release: 0,36 mg/L
PNEC sediment, freshwater: 0,981 mg/kg Sediment dry weight
PNEC sediment, marine water: 0,0981 mg/kg Sediment dry weight
PNEC, soil: 0,0903 mg/kg Sediment dry weight
PNEC sewage treatment plant (STP): 35,6 mg/L

2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6

PNEC aquatic, freshwater: 0,635 mg/cm³
PNEC aquatic, marine water: 0,0635 mg/cm³
PNEC aquatic, intermittent release: 6,35 mg/cm³
PNEC sediment, freshwater: 3,29 mg/cm³
PNEC sediment, marine water: 0,329 mg/cm³
PNEC, soil: 0,29 mg/m³
PNEC sewage treatment plant (STP): 100 mg/cm³

8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

Personal protection equipment

Respiratory protection

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Use only respiratory protection equipment with CE-symbol including four digit test number.

Hand protection

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye/face protection

Wear closely fitting protective glasses in case of splashes.

Body protection

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

Protective measures

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

Environmental exposure controls

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:

Liquid

Colour:

refer to label

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Odour:	characteristic
Odour threshold:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	-42 °C Source: Hydrocarbons, C3-4
Flammability:	Extremely flammable aerosol.
Lower and upper explosion limit:	
Lower explosion limit:	1.89 Vol-%
Upper explosion limit:	13 Vol-% Source: Acetone
Flash point:	-100 °C Method: DIN 53213
Auto-ignition temperature:	333 °C Source: 2-methoxy-1-methylethyl acetate
Decomposition temperature:	not applicable
pH at 20 °C:	not applicable
Cinematic viscosity (40°C):	< 80 mm²/s
Viscosity at 20 °C:	20 s 4 mm Method: DIN 53211
Solubility(ies):	
Water solubility at 20 °C:	partially soluble
Partition coefficient: n-octanol/water:	see section 12
Vapour pressure at 20 °C:	8300 mbar Source: Hydrocarbons, C3-4
Density and/or relative density:	
Density at 20 °C:	0.70 g/cm³
Relative vapour density:	not applicable
particle characteristics:	not applicable
9.2. Other information	
Solid content:	6 weight-%
solvent content:	
Organic solvents:	94 weight-%
Water:	0 weight-%

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

10.4. Conditions to avoid

Hazardous decomposition byproducts may form with exposure to high temperatures.

10.5. Incompatible materials

not applicable

10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

SECTION 11: Toxicological information

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

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Acute toxicity

Ethyl acetate

oral, LD50, Rat: 5620 mg/kg
dermal, LD50, Rabbit: > 20000 mg/kg
oral, LD50, Rabbit: 4934
Method: OECD 401
inhalative (vapours), LC0, Rat: 29,3 (4 h)
inhalative (vapours), LCLo, Rat: > 6000 ppm (6 h)
inhalative (vapours), LD50, Rabbit, male: > 2000 mg/kg

Acetone

oral, LD50, Rat: 5800 mg/kg
Method: OECD 401
May cause mouth and throat pain, nausea, vomiting, dizziness, headache and unconsciousness.
dermal, LD50, Rabbit: 7400 mg/kg
inhalative (vapours), LC50, Rat: 76 mg/L (4 h)
May cause pain in nose and throat, nausea, dizziness, headache, loss of responsiveness and unconsciousness at high concentrations.

n-butyl acetate

oral, LD50, Rat: 10760 mg/kg
Method: OECD 423
dermal, LD50, Rabbit: 14112 mg/kg
Method: OECD 402
inhalative (dust and mist), LC50, Rat: 23,4 mg/L (4 h)
Method: OECD 403

2-methoxy-1-methylethyl acetate

dermal, LD50, Rabbit: > 2000 mg/kg

Skin corrosion/irritation; Serious eye damage/eye irritation

Causes serious eye irritation.

Ethyl acetate

Skin (4 h)
No skin irritation (rabbit). Degreases the skin and makes it dry and rough. Prolonged or repeated skin contact can lead to dermatitis.
eyes
Moderate eye irritation (rabbit).

n-butyl acetate

Skin, Rabbit (4 h)
Method: OECD 404
No skin irritation
eyes
Method: OECD 405
No eye irritation

2-methoxy-1-methylethyl acetate

Skin (4 h)
Method: OECD 404
Not to be classified as skin etching/irritant.
eyes
Not to be classified as severe eye damage or eye irritation.

Respiratory or skin sensitisation

Ethyl acetate

Skin, Guinea pig: ; Evaluation not sensitising.
Method: OECD 406
Maximization test

n-butyl acetate

Skin, Guinea pig: ; Evaluation not sensitising.
Method: OECD 406
Mouse mouse ear swelling test (MEST)

2-methoxy-1-methylethyl acetate

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Skin: ; Evaluation not sensitising.
Method: OECD 406
Respiratory system:
No data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Ethyl acetate

Germ cell mutagenicity; Evaluation In vitro tests showed no mutagenic effects.
Carcinogenicity; Evaluation Didn't show any carcinogenic effects in animal tests.
Reproductive toxicity; Evaluation No reproductive toxicity
Genotoxicity in vitro; Evaluation negative
(Chromosome aberration test in vitro; CHO (Chinese hamster ovaries) cells; with and without metabolic activation) (OECD Test Guideline 473).; (Back mutation test on bacteria; Salmonella typhimurium) (OECD test guideline 471).
Genotoxicity in vivo; Evaluation negative
Method: OECD 474
(Chromosome aberration test in vivo; Chinese hamster, male and female) (Oral).

n-butyl acetate

Germ cell mutagenicity; Evaluation Ames test negative.

2-methoxy-1-methylethyl acetate

Germ cell mutagenicity
No data available
Carcinogenicity
No data available
Reproductive toxicity
No data available
Lactation
No data available

STOT-single exposure; STOT-repeated exposure

May cause drowsiness or dizziness.

Ethyl acetate

Specific target organ toxicity (single exposure)
Inhalation; central nervous system; May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)
No data available
Repeated dose toxicity: 900 mg/kg
Method NOAEL
Repeated dose toxicity, Rat: 3600 mg/kg (92 d)
Method LOAEL
oral
Repeated dose toxicity, Rat: 350 ppm (94 d)
Method NOEC
inhalative (vapours); 5 days/week
Repeated dose toxicity, Rat: 350 ppm (94 d)
Method LOEC:
inhalative (vapours); 5 days/week

n-butyl acetate

Specific target organ toxicity (single exposure)
central nervous system; May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)
human; Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).; Steam in high concentration leads to unconsciousness.

2-methoxy-1-methylethyl acetate

Specific target organ toxicity (single exposure)
No data available
Specific target organ toxicity (repeated exposure)
No data available

Aspiration hazard

Ethyl acetate

Aspiration hazard

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no classification

n-butyl acetate

Aspiration hazard; Evaluation No classification for aspiration toxicity

2-methoxy-1-methylethyl acetate

Aspiration hazard

Not to be classified as aspirational.

Practical experience/human evidence

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

SECTION 12: Ecological information

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

Do not allow to enter into surface water or drains.

12.1. Toxicity

Ethyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 230 mg/L (96 h)

Flow test; US-EPA

Daphnia toxicity, EC50, Daphnia magna: 610 mg/L (48 h)

Daphnia toxicity, EC50, Daphnia cucullata (Helmet water flea): 165 mg/L (48 h)

Algae toxicity, EC50, Desmodesmus subspicatus: 5600 mg/L (48 h)

Method: DIN 38412

Static test; end; Rate of growth

Algae toxicity, NOEC, Desmodesmus subspicatus: > 100 mg/L (72 h)

Method: OECD 201

Static test; end; Rate of growth

Bacteria toxicity, EC10, Photobacterium phosphoreum: 1650 mg/L (15 min.)

Static test; end; Rate of growth

Bacteria toxicity, EC50, Photobacterium phosphoreum: 5870 mg/L (15 min.)

Static test; end; Rate of growth

Acetone

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 5540 mg/L (96 h)

Fish toxicity, LC50, Alburnus alburnus (alburnus): 11000 mg/L (96 h)

Daphnia toxicity, LC50, Daphnia pulex (water flea): 8800 mg/L (48 h)

Algae toxicity, NOEC, Proocentrum minimum: 430 mg/L (96 h)

Bacteria toxicity, EC12, Activated sludge: 1000 mg/L (30 min)

Method: OECD 209

Static test; end; respiratory inhibition

Fish toxicity, LC50, Leuciscus idus (golden orfe): 7500 mg/L (96 h)

Daphnia magna, EC50, Daphnia magna: > 100 mg/L

Fish toxicity, EC50, Lepomis macrochirus (Bluegill): 8300 mg/L (96 h)

Fish toxicity, EC50, Selenastrum capricornutum: 7500 mg/L (96 h)

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 8120 mg/L (96 h)

Method: OECD 203

n-butyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 18 mg/L (96 h)

Method: OECD 203

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 44 mg/L (48 h)

Algae toxicity, ErC50

Algae toxicity, EC50, Desmodesmus subspicatus: 647,7 mg/L (72 h)

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(Growth inhibition)
Algae toxicity, NOEC, *Desmodesmus subspicatus*: 200 mg/L
Bacteria toxicity, IC50, *Tetrahymena*: 356 mg/L (40 h)

Long-term Ecotoxicity

Ethyl acetate

Fish toxicity, NOEC, *Pimephales promelas* (fathead minnow): > 9,65 mg/L (32 d)
Method: OECD 211
semistatic

Acetone

Daphnia toxicity, NOEC, *Daphnia pulex* (water flea): 2212 mg/L 0 - 2212 mg/L (28 d)
end; reproduction
Daphnia toxicity, LOEC:, *Daphnia magna*: 2212 mg/L (28 d)
Daphnia magna, NOEC, *Daphnia magna* 1106 - 2212 mg/L (28 d)

12.2. Persistence and degradability

Ethyl acetate

Persistence and degradability: Evaluation The product evaporates easily from the water surface.
Biodegradation: 79 percent (20 d); Evaluation Readily biodegradable (according to OECD criteria).
Method: OECD 301D
Related to: Biochemical oxygen demand

Acetone

Biodegradation: 91 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria).
Method: OECD 301B

n-butyl acetate

Persistence and degradability: Evaluation No data available
Biodegradation: 83 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria).
Method: OECD 301D
aerobic.

2-methoxy-1-methylethyl acetate

Persistence and degradability:
No data available
Biodegradation: Evaluation Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

Ethyl acetate

Partition coefficient: n-octanol/water:
Distribution coefficient n-octanol/water (log KOW): 0,68 ; Evaluation Bioaccumulation is not to be expected.

Acetone

Distribution coefficient n-octanol/water (log KOW): -0,24

n-butyl acetate

Distribution coefficient n-octanol/water (log KOW):
No data available

2-methoxy-1-methylethyl acetate

Distribution coefficient n-octanol/water (log KOW): 1,2

Bioconcentration factor (BCF)

Ethyl acetate

Bioconcentration factor (BCF): 30

Acetone

Bioconcentration factor (BCF): 3
Bioaccumulation is not to be expected.

12.4. Mobility in soil

Ethyl acetate

Water: Evaluation Swims on water and does not dissolve.
Air: Evaluation Slightly volatile, quickly distributed in the air.

Acetone

soil:
Mobile in the ground
Water:

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The product is water soluble.

Air:

Product is easily volatile.

n-butyl acetate

:

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Dispose of waste according to applicable legislation.

List of proposed waste codes/waste designations in accordance with EWC

160504* Gases in pressure containers (including halons) containing hazardous substances

*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

Appropriate disposal / Package Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

SECTION 14: Transport information

14.1. UN number or ID number

UN 1950

14.2. UN proper shipping name

Land transport (ADR/RID):

Aerosols, flammable

Sea transport (IMDG):

AEROSOLS

Air transport (ICAO-TI / IATA-DGR):

Aerosols, flammable

14.3. Transport hazard class(es)

2.1

14.4. Packing group

not applicable

14.5. Environmental hazards

Land transport (ADR/RID)

not applicable

Marine pollutant

not applicable

14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

Further information

Land transport (ADR/RID)

Tunnel restriction code

D

Sea transport (IMDG)

EmS-No.

F-D, S-U

14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according IBC - Code.

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SECTION 15: Regulatory information

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

EU legislation

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

VOC-value (in g/L): 657

National regulations

Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

15.2. Chemical Safety Assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

EC No. CAS No.	Designation	REACH No.
205-500-4 141-78-6	Ethyl acetate	01-2119475103-46
200-662-2 67-64-1	Acetone	01-2119471330-49
204-658-1 123-86-4	n-butyl acetate	01-2119485493-29
203-603-9 108-65-6	2-methoxy-1-methylethyl acetate	01-2119475791-29

SECTION 16: Other information

Full text of classification in section 3

Flam. Liq. 2 / H225	Flammable liquids	Highly flammable liquid and vapour.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.

Classification procedure

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Aerosol 1	Aerosol	On basis of test data.
Aerosol 1	Aerosol	On basis of test data.
Eye Irrit. 2	Serious eye damage/eye irritation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose

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MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

Further information

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.