

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 7.9

Revision Date 04.11.2024

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

1.1 Product identifiers

Product name : MSMLS Plate 6 (Lipophilic)

Product Number : MSMLS06

Brand : Sigma

REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : For R&D use only. Not for pharmaceutical, household or other uses.

1.3

CHEMIKART

1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Acute toxicity, (Category 1)	H310: Fatal in contact with skin.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.
Skin sensitization, (Category 1)	H317: May cause an allergic skin reaction.
Germ cell mutagenicity,	H341: Suspected of causing genetic

(Category 2)	defects.
Carcinogenicity, (Category 2)	H351: Suspected of causing cancer.
Long-term (chronic) aquatic hazard, (Category 2)	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word	Danger
Hazard Statements	
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.
Precautionary Statements	
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352 + P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word	Danger
Hazard Statements	
H310	Fatal in contact with skin.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H318	Causes serious eye damage.
Precautionary Statements	
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

P302 + P352 + P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

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

Toxicological information:

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component		Classification	Concentration
3-Hydroxyphenyl acetate			
CAS-No.	102-29-4	Acute Tox. 4; Eye Dam. 1; Skin Sens. 1; H302, H318, H317	>= 1 - < 3 %
EC-No.	203-022-0		
	*		
1-Methyl-6,7-dihydroxy-1,2,3,4-tetrahydroisoquinoline hydrobromide			
CAS-No.	59709-57-8	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
	*		
3-Hydroxybenzoic acid			
CAS-No.	99-06-9	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H315, H319, H335	>= 1 - < 10 %
EC-No.	202-726-5		
	*		
Itaconic acid			
CAS-No.	97-65-4	Eye Dam. 1; H318	>= 1 - < 3 %
EC-No.	202-599-6		
	*		

2-Methylbutyraldehyde			
CAS-No.	96-17-3	Flam. Liq. 2; Eye Irrit. 2; Skin Sens. 1; STOT SE 3; Aquatic Chronic 2; H225, H319, H317, H335, H411	>= 1 - < 2,5 %
EC-No.	202-485-6		
	*		
2',4'-Dihydroxyacetophenone			
CAS-No.	89-84-9	Eye Irrit. 2; H319	>= 1 - < 10 %
EC-No.	201-945-3		
	*		
Salicylic acid			
CAS-No.	69-72-7	Acute Tox. 4; Eye Dam. 1; Repr. 2; H302, H318, H361d	>= 1 - < 3 %
EC-No.	200-712-3		
Index-No.	607-732-00-5		
Registration number	01-2119486984-17- XXXX		
Salicylamide			
CAS-No.	65-45-2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H315, H319, H335	>= 1 - < 10 %
EC-No.	200-609-3		
	*		
3-hydroxyphenylacetic acid			
CAS-No.	621-37-4	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
EC-No.	210-684-4		
	*		
suberic acid			
CAS-No.	505-48-6	Eye Irrit. 2; H319	>= 1 - < 10 %
EC-No.	208-010-9		
	*		
Citraconic acid			
CAS-No.	498-23-7	Acute Tox. 4; H302	>= 1 - < 10 %
EC-No.	207-858-7		
	*		
N-Ethyl-2-(isopropyl)-5-methylcyclohexanecarboxamide			
CAS-No.	39711-79-0	Acute Tox. 4; Eye Dam. 1; H302, H318	>= 1 - < 3 %
EC-No.	254-599-0		
	*		
O,O'-Bis(3-aminopropyl)polyethylene glycol			
CAS-No.	34901-14-9	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
	*		
2-Oxo-hexanedioic acid			
CAS-No.	3184-35-8	Skin Irrit. 2; Eye Irrit. 2;	>= 1 - < 10

*		H315, H319	%
Indole-3-acetaldehyde sodium bisulfite			
CAS-No.	20095-27-6	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
*			
(S)-(-)-1-phenylethanol			
CAS-No.	1445-91-6	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H302, H315, H319	>= 1 - < 10 %
*			
trans-Cinnamaldehyde			
CAS-No.	14371-10-9	Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; STOT SE 3; H315, H319, H317, H335	>= 1 - < 10 %
*			
pyruvic acid			
CAS-No.	127-17-3	Skin Corr. 1C; Eye Dam. 1; H314, H318	>= 1 - < 3 %
EC-No.	204-824-3		
*			
adipic acid			
CAS-No.	124-04-9	Eye Dam. 1; H318	>= 1 - < 3 %
EC-No.	204-673-3		
Index-No.	607-144-00-9		
*			
Azelaic acid			
CAS-No.	123-99-9	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
EC-No.	204-669-1		
Registration number	01-2119557891-28-XXXX		
Vanillin			
CAS-No.	121-33-5	Eye Irrit. 2; H319	>= 1 - < 10 %
EC-No.	204-465-2		
Registration number	01-2119516040-60-XXXX		
methyl acetoacetate			
CAS-No.	105-45-3	Eye Dam. 1; H318	>= 1 - < 3 %
EC-No.	203-299-8		
Index-No.	607-137-00-0		
*			
4-Methoxyphenylacetic acid			
CAS-No.	104-01-8	Eye Dam. 1; H318	>= 1 - < 3 %
EC-No.	203-166-4		
*			

6-Hydroxy-2-oxopyridinium chloride			
CAS-No.	10357-84-3	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
EC-No.	233-777-1		
	*		
Barium nitrate			
CAS-No.	10022-31-8	Ox. Sol. 2; Acute Tox. 3; Acute Tox. 4; Eye Irrit. 2; H272, H301, H332, H319	>= 1 - < 10 %
EC-No.	233-020-5		
Index-No.	056-002-00-7		
	*		
4-Amino-N,N-dimethylaniline			
CAS-No.	99-98-9	Acute Tox. 2; Acute Tox. 3; Acute Tox. 1; H300, H331, H310	>= 1 - < 10 %
EC-No.	202-807-5		
Index-No.	612-031-00-2		
	*		
Pyrrole-2-carboxylic acid			
CAS-No.	634-97-9	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
EC-No.	211-221-9		
	*		
Quinoline-4-carboxylic acid			
CAS-No.	486-74-8	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
EC-No.	207-640-1		
	*		
butanedione			
CAS-No.	431-03-8	Flam. Liq. 2; Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; STOT RE 2; H225, H302, H331, H315, H318, H317, H373	>= 1 - < 3 %
EC-No.	207-069-8		
	*		
2-Methylglutaric acid			
CAS-No.	18069-17-5	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
EC-No.	210-521-7		
	*		
Sodium 3-methyl-2-oxovalerate			
CAS-No.	3715-31-9	Eye Irrit. 2; H319	>= 1 - < 10 %
EC-No.	266-503-4		
	*		
Manganese(IV) oxide			
CAS-No.	1313-13-9	Acute Tox. 4; STOT RE 2; H302, H332, H373	>= 1 - < 10 %
EC-No.	215-202-6		
Index-No.	025-001-00-3		
	*		

hydroquinone			
CAS-No.	123-31-9	Acute Tox. 4; Eye Dam. 1;	>= 1 - < 2,5 %
EC-No.	204-617-8	Skin Sens. 1B; Muta. 2;	
Index-No.	604-005-00-4	Carc. 2; Aquatic Acute 1;	
Registration number	01-2119524016-51-XXXX	Aquatic Chronic 1; H302, H318, H317, H341, H351, H400, H410	
		M-Factor - Aquatic Acute: 10	
Benzyl alcohol			
CAS-No.	100-51-6	Acute Tox. 4; Eye Irrit. 2;	>= 1 - < 10 %
EC-No.	202-859-9	H302, H332, H319	
Index-No.	603-057-00-5		
Registration number	01-2119492630-38-XXXX		
phenylacetaldehyde			
CAS-No.	122-78-1	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Skin	>= 1 - < 2,5 %
EC-No.	204-574-5	Sens. 1A; Aquatic Chronic 3; H302, H314, H318, H317, H412	
	*		
Pyruvaldehyde			
CAS-No.	78-98-8	Met. Corr. 1; Acute Tox. 4;	>= 0,1 - < 1 %
EC-No.	201-164-8	Eye Dam. 1; Skin Sens. 1B; Muta. 2; H290, H302, H318, H317, H341	
	*		

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, or the annual tonnage does not require a registration.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance. First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. After inhalation: fresh air. Call in physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Sulfur oxides

Oxides of phosphorus

Hydrogen chloride gas

Potassium oxides

Sodium oxides

Lithium oxides

Mixture with combustible ingredients.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Use water spray to cool unopened containers. Use water spray to cool unopened containers. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all

circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability Recommended storage temperature

-20 °C

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. protective clothing

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|--|
| a) Physical state | solid |
| b) Color | No data available |
| c) Odor | No data available |
| d) Melting point/freezing point | No data available |
| e) Initial boiling point and boiling range | No data available |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | -4,99 °C |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH | No data available |
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) Water solubility | No data available |
| n) Partition coefficient: n-octanol/water | No data available |
| o) Vapor pressure | No data available |
| p) Density | No data available |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| | |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Violent reactions possible with:

10.4 Conditions to avoid

Heat, flames and sparks.
Heat, flames and sparks.
no information available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimate Oral - 1.806 mg/kg
(Calculation method)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate Inhalation - 4 h - > 5 mg/l - dust/mist(Calculation method)

Symptoms: Possible symptoms:, mucosal irritations

Acute toxicity estimate Dermal - 42 mg/kg
(Calculation method)

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Respiratory or skin sensitization

Mixture may cause an allergic skin reaction.

Germ cell mutagenicity

Evidence of genetic defects.

Carcinogenicity

Evidence of a carcinogenic effect.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components

3-Hydroxyphenyl acetate

Acute toxicity

LD50 Oral - 500,1 mg/kg

Inhalation: No data available

Dermal: No data available

LD50 Intraperitoneal - Mouse - 400 mg/kg

Remarks:

Behavioral: Somnolence (general depressed activity).

Behavioral: Tremor.

Behavioral: Ataxia.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe eye irritation
(Draize Test)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

1-Methyl-6,7-dihydroxy-1,2,3,4-tetrahydroisoquinoline hydrobromide**Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

3-Hydroxybenzoic acid**Acute toxicity**

LD50 Oral - Mouse - 2.000 mg/kg

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Itaconic acid**Acute toxicity**

LD50 Oral - Rat - > 2.000 mg/kg

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Remarks: (External MSDS)

Symptoms: Possible damages:, mucosal irritations

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Remarks: (IUCLID)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

Remarks: (IUCLID)

Risk of serious damage to eyes.

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

Remarks: (IUCLID)

Germ cell mutagenicity

Test Type: Ames test

Result: negative

Remarks: (IUCLID)

Result: negative

Remarks: (IUCLID)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity - Possible damages: , mucosal irritations

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

2-Methylbutyraldehyde**Acute toxicity**

LD50 Oral - Rat - male - 6.884 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 50,5 mg/l - vapor

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male - 5.400 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Eyes - Rabbit

Result: irritating - 8 d

Eyes - Rat

Result: Eye irritation

Remarks: (RTECS)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

(OECD Test Guideline 429)

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

2',4'-Dihydroxyacetophenone**Acute toxicity**

LD50 Oral - Rat - 2.830 mg/kg

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Remarks: (RTECS)
Symptoms: Possible damages:, mucosal irritations
Dermal: No data available

Skin corrosion/irritation

Remarks: slight irritation

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe irritations

Remarks: (RTECS)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Salicylic acid

Acute toxicity

LD50 Oral - Rat - male - 891 mg/kg

(OECD Test Guideline 401)

Oral: Behavioral: Muscle weakness.

Acute toxicity estimate Oral - 891 mg/kg

(ATE value derived from LD50/LC50 value)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Risk of serious damage to eyes.

(Draize Test)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 475

Species: Mouse - male - Bone marrow

Result: negative

Method: US-EPA

Species: Mouse - male - Bone marrow

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure**Aspiration hazard**

No data available

Salicylamide**Acute toxicity**

LD50 Oral - Rat - 980 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Somnolence (general depressed activity).

Respiratory disorder

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Moderate eye irritation - 48 h

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

Laboratory experiments have shown teratogenic effects.

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

3-hydroxyphenylacetic acid**Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

suberic acid**Acute toxicity**

LD50 Oral - Rat - > 2.000 mg/kg

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Moderate eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Citraconic acid**Acute toxicity**

LD50 Oral - Rat - 1.320 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Tremor.

Gastrointestinal:Ulceration or bleeding from stomach.

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

N-Ethyl-2-(isopropyl)-5-methylcyclohexanecarboxamide**Acute toxicity**

Oral: No data available

LD50 Oral - 500,1 mg/kg

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

O,O'-Bis(3-aminopropyl)polyethylene glycol

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

2-Oxo-hexanedioic acid

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Indole-3-acetaldehyde sodium bisulfite

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

(S)-(-)-1-phenylethanol**Acute toxicity**

LD50 Oral - Rat - 400 mg/kg

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Remarks: (racemate)

(Lit.)

Inhalation: No data available

LD50 Dermal - Rabbit - 2.500 mg/kg

Remarks: (racemate)

(External MSDS)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations

(Draize Test)

Remarks: (RTECS)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe irritations

(Draize Test)

Remarks: (RTECS)

Respiratory or skin sensitization

Sensitisation test (Magnusson and Kligman):

Result: negative

Remarks: (racemate)

(External MSDS)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Remarks: (Lit.)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

trans-Cinnamaldehyde

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Hamster

Test system: fibroblast

Remarks: Cytogenetic analysis

Test Type: Hamster

Test system: fibroblast

Remarks: Morphological transformation.

Test Type: Hamster

Test system: ovary

Remarks: Sister chromatid exchange

Species: Mouse

Remarks: Micronucleus test

Species: Rat

Remarks: Micronucleus test

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

pyruvic acid

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: Shortness of breath, Cough, mucosal irritations, Lung edema, Pneumonia, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: Causes severe burns.

(ECHA)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.
(ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test
Test system: S. typhimurium
Result: negative
Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute inhalation toxicity - Shortness of breath, Cough, mucosal irritations, Lung edema, Pneumonia, Possible damages:, damage of respiratory tract

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

adipic acid**Acute toxicity**

LD50 Oral - Rat - male and female - 5.560 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - > 7,7 mg/l - dust/mist
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male and female - > 7.940 mg/kg
Remarks: (40% solution)
(External MSDS)

Skin corrosion/irritation

Skin - Rabbit
Result: slight irritation - 24 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit
Result: Causes serious eye damage. - 24 h
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig
Result: negative
Remarks: (ECHA)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: human diploid fibroblasts

Result: negative

Remarks: (ECHA)

Species: Rat - male - Bone marrow

Result: negative

Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure**Aspiration hazard**

No data available

Azelaic acid**Acute toxicity**

LD50 Oral - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 401)

Remarks: (in analogy to similar compounds)

LC50 Inhalation - Rat - male and female - 4 h - > 0,162 mg/l - vapor

Remarks: (in analogy to similar products)

(ECHA)

The value is given in analogy to the following substances: Octanoic acid

LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg

(OECD Test Guideline 434)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: stearic acid

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h

(OECD Test Guideline 404)

Remarks: (in analogy to similar products)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation.

Remarks: (in analogy to similar products)

(ECHA)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test
Test system: *S. typhimurium*
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard

No data available

Vanillin

Acute toxicity

LD50 Oral - Rat - male and female - 3.925 - 3.978 mg/kg
(EC Directive 92/69/EEC B.1 Acute Toxicity (Oral))
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rat
Result: No skin irritation - 24 h
Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test
Test system: *Salmonella typhimurium*
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster ovary cells
Result: negative
Method: Mutagenicity (micronucleus test)
Species: Mouse - female - Bone marrow
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

methyl acetoacetate**Acute toxicity**

LD50 Oral - Rat - male - 2.580 mg/kg

(OECD Test Guideline 401)

Remarks: (ECHA)

Inhalation: No data available

LD50 Dermal - Rat - > 2.000 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

(OECD Test Guideline 405)

Remarks: (ECHA)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: Not a skin sensitizer.

(OECD Test Guideline 429)

Remarks: (ECHA)

Germ cell mutagenicity

No data available

Test Type: Ames test

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster fibroblasts

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

4-Methoxyphenylacetic acid

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

6-Hydroxy-2-oxopyridinium chloride

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Barium nitrate**Acute toxicity**

LD50 Oral - Rat - female - 50 - 300 mg/kg

(OECD Test Guideline 423)

Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist

(Expert judgment)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: irritating

(OECD Test Guideline 405)

Respiratory or skin sensitization

Sensitisation test: - Mouse

Result: Does not cause skin sensitization.

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

4-Amino-N,N-dimethylaniline**Acute toxicity**

LD50 Oral - Mouse - 30 mg/kg

Remarks: Behavioral:Tremor.

Behavioral:Convulsions or effect on seizure threshold.

Inhalation: No data available

LD50 Dermal - Guinea pig - 0,5 mg/kg
LD50 Intraperitoneal - Rabbit - 100 mg/kg

Remarks:

Behavioral: Convulsions or effect on seizure threshold.

Behavioral: Excitement.

LD50 Intraperitoneal - Rat - 21 mg/kg

Remarks:

Behavioral: Convulsions or effect on seizure threshold.

Behavioral: Excitement.

LD50 Intraperitoneal - Mouse - 25 mg/kg

LD50 Intraperitoneal - Guinea pig - 45 mg/kg

Remarks:

Behavioral: Convulsions or effect on seizure threshold.

Behavioral: Excitement.

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity

Test Type: Rat

Test system: Liver

Remarks: Unscheduled DNA synthesis

Test Type: Hamster

Test system: Lungs

Remarks: Cytogenetic analysis

Test Type: Ames test

Test system: S. typhimurium

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Pyrrole-2-carboxylic acid

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Quinoline-4-carboxylic acid**Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

butanedione

Acute toxicity

LD50 Oral - Rat - 1.580 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Convulsions or effect on seizure threshold.

(RTECS)

Acute toxicity estimate Oral - 1.580 mg/kg

(Calculation method)

LC50 Inhalation - Rat - 4 h - 2,25 - 5,2 mg/l - vapor

Remarks: (External MSDS)

Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

Acute toxicity estimate Inhalation - 2,25 mg/l - vapor

(Calculation method)

LD50 Dermal - Rabbit - > 5.000 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations

Remarks: (External MSDS)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe eye irritation

Remarks: (External MSDS)

Respiratory or skin sensitization

May cause allergic skin reaction.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute inhalation toxicity - Possible damages:, Irritation symptoms in the respiratory tract.

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure.

- Respiratory system

Aspiration hazard

No data available

2-Methylglutaric acid

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Sodium 3-methyl-2-oxovalerate**Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

The value is given in analogy to the following substances: 3-methyl-2-oxovaleric acid

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Manganese(IV) oxide

Acute toxicity

Acute toxicity estimate Oral - 500,1 mg/kg

(Expert judgment)

Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist

(Expert judgment)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure.

- Brain

Aspiration hazard

No data available

hydroquinone

Acute toxicity

LD50 Oral - Rat - female - 367,3 mg/kg

(OECD Test Guideline 401)

Acute toxicity estimate Oral - 367,3 mg/kg

(ATE value derived from LD50/LC50 value)

Inhalation: No data available

LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

Remarks: (ECHA)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.
(Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse
Result: positive
(OECD Test Guideline 429)

Germ cell mutagenicity

Suspected of causing genetic defects.
Test Type: Ames test
Test system: *S. typhimurium*
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: positive
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Result: negative
Remarks: (ECHA)
Method: OECD Test Guideline 489
Species: Rat - male and female
Result: negative
Method: OECD Test Guideline 488
Species: Mouse - male
Result: negative
Method: OECD Test Guideline 478
Species: Rat - male
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Red blood cells (erythrocytes)
Result: positive
Species: Mouse - male - Red blood cells (erythrocytes)
Result: positive
Remarks: (ECHA)

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure**Aspiration hazard**

No data available

Benzyl alcohol

Acute toxicity

LD50 Oral - Rat - male - 1.620 mg/kg

Remarks: (ECHA)

LC50 Inhalation - 4 h - > 4,178 mg/l - dust/mist
(OECD Test Guideline 403)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: irritating

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Method: OECD Test Guideline 474

Species: Mouse - male - Red blood cells (erythrocytes)

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

phenylacetaldehyde

Acute toxicity

LD50 Oral - Rat - 1.550 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rabbit - > 5.000 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - human skin

Result: Corrosive

(OECD Test Guideline 431)

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: reverse mutation assay

Test system: TA1535

Result: negative

Test Type: reverse mutation assay

Test system: E. coli

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard

No data available

Pyruvaldehyde

Acute toxicity

LD50 Oral - Rat - male and female - 1.380 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 13,6 mg/l - Aerosol

(OECD Test Guideline 403)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin-irritant effect in animal experiments. - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: positive

(OECD Test Guideline 406)

Remarks: The value is given in analogy to the following substances: Glyoxazal

Germ cell mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information**12.1 Toxicity****Mixture**

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties**Product:**

Assessment

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

12.7 Other adverse effects

Very toxic to aquatic life with long lasting effects.

Components**3-Hydroxyphenyl acetate**

No data available

1-Methyl-6,7-dihydroxy-1,2,3,4-tetrahydroisoquinoline hydrobromide

No data available

3-Hydroxybenzoic acid

Toxicity to algae	Growth inhibition EC50 - <i>Scenedesmus quadricauda</i> (Green algae) - > 10 mg/l - 13 d
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Itaconic acid

Toxicity to fish	LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 190 mg/l - 24 h Remarks: (IUCLID)
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Toxicity to daphnia and other aquatic invertebrates	EC50 - <i>Daphnia magna</i> (Water flea) - 240 mg/l - 24 h Remarks: (IUCLID)
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Toxicity to algae	IC50 - <i>Desmodesmus subspicatus</i> (green algae) - 47 mg/l - 72 h Remarks: (IUCLID)
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2-Methylbutyraldehyde

Toxicity to fish	LC50 - <i>Pimephales promelas</i> (fathead minnow) - 9,9 mg/l - 96 h Remarks: (ECOTOX Database)
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Toxicity to daphnia and other aquatic invertebrates	EC50 - <i>Daphnia magna</i> (Water flea) - 7,2 mg/l - 48 h (OECD Test Guideline 202)
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Toxicity to algae	static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 123 mg/l - 72 h (OECD Test Guideline 201)
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2',4'-Dihydroxyacetophenone

No data available

Salicylic acid

Toxicity to fish	flow-through test LC50 - <i>Pimephales promelas</i> (fathead minnow) - 1.370 mg/l - 96 h (OECD Test Guideline 203) Remarks: The value is given in analogy to the following substances: Sodium salicylate
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Toxicity to daphnia and other aquatic invertebrates	static test EC50 - <i>Daphnia magna</i> (Water flea) - 870 mg/l - 48 h (OECD Test Guideline 202)
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Toxicity to algae	Growth inhibition ErC50 - <i>Desmodesmus subspicatus</i> (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
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Toxicity to bacteria	static test EC50 - <i>Pseudomonas putida</i> - 380 mg/l - 16 h Remarks: (ECHA) The value is given in analogy to the following substances: methyl salicylate
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Toxicity to daphnia
and other aquatic
invertebrates(Chronic
toxicity)

NOEC - Daphnia magna (Water flea) - 10 mg/l - 21 d
(OECD Test Guideline 202)

Salicylamide

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 101 mg/l - 96
h

3-hydroxyphenylacetic acid

No data available

suberic acid

No data available

Citraconic acid

No data available

N-Ethyl-2-(isopropyl)-5-methylcyclohexanecarboxamide

No data available

O,O'-Bis(3-aminopropyl)polyethylene glycol

No data available

2-Oxo-hexanedioic acid

No data available

Indole-3-acetaldehyde sodium bisulfite

No data available

(S)-(-)-1-phenylethanol

Toxicity to daphnia
and other aquatic
invertebrates

static test EC50 - Daphnia magna (Water flea) - 102 mg/l - 48
h
Remarks: (racemate)
(External MSDS)

trans-Cinnamaldehyde

No data available

pyruvic acid

No data available

adipic acid

Toxicity to daphnia
and other aquatic
invertebrates

static test LC50 - Daphnia magna (Water flea) - 46 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 64,5 mg/l - 72 h (OECD Test Guideline 201)
	static test NOEC - Pseudokirchneriella subcapitata (green algae) - 40,6 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 6,3 mg/l - 21 d (OECD Test Guideline 211)

Azelaic acid

Toxicity to fish	semi-static test LC50 - Oryzias latipes - > 16 mg/l - 96 h (OECD Test Guideline 203) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Decanoic acid
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 20 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Decanoic acid
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 67 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC10 - Pseudomonas putida - 912 mg/l - 18 h (ISO 10712)
Toxicity to fish(Chronic toxicity)	flow-through test LC50 - Danio rerio (zebra fish) - 9,8 mg/l - 28 d Remarks: (ECHA) (in analogy to similar products) The value is given in analogy to the following substances: lauric acid
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 0,2 mg/l - 21 d (OECD Test Guideline 211) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Decanoic acid semi-static test EC50 - Daphnia magna (Water flea) - 0,51 mg/l - 21 d (OECD Test Guideline 211)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances:
Decanoic acid

Vanillin

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 57 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 36,6 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 120 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	IC50 - microorganisms - 163 mg/l - 40 h Remarks: (External MSDS)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 5,9 mg/l - 21 d (OECD Test Guideline 202)
	semi-static test EC50 - Daphnia magna (Water flea) - 16 mg/l - 21 d (OECD Test Guideline 202)

methyl acetoacetate

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - > 111,4 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

4-Methoxyphenylacetic acid

No data available

6-Hydroxy-2-oxopyridinium chloride

No data available

Barium nitrate

No data available

4-Amino-N,N-dimethylaniline

No data available

Pyrrole-2-carboxylic acid

No data available

Quinoline-4-carboxylic acid

No data available

butanedione

Toxicity to fish

LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96 h
Remarks: (External MSDS)

Toxicity to bacteria

Remarks: (Hommel)

2-Methylglutaric acid

No data available

Sodium 3-methyl-2-oxovalerate

No data available

Manganese(IV) oxide

No data available

hydroquinone

Toxicity to fish

flow-through test LC50 - Oncorhynchus mykiss (rainbow trout)
- 0,638 mg/l - 96 h
(OECD Test Guideline 203)Toxicity to daphnia
and other aquatic
invertebratessemi-static test EC50 - Daphnia magna (Water flea) - 0,134
mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae

static test ErC50 - Pseudokirchneriella subcapitata - 0,33 mg/l
- 72 h
(OECD Test Guideline 201)static test NOEC - Pseudokirchneriella subcapitata - 0,019 mg/l
- 72 h
(OECD Test Guideline 201)Toxicity to
fish(Chronic toxicity)flow-through test NOEC - Pimephales promelas (fathead
minnow) - $\geq 0,1$ mg/l - 32 d
(OECD Test Guideline 210)Toxicity to daphnia
and other aquatic
invertebrates(Chronic
toxicity)semi-static test LC50 - Daphnia magna (Water flea) - 0,061
mg/l - 21 d
(OECD Test Guideline 211)**Benzyl alcohol**

Toxicity to fish

static test LC50 - Pimephales promelas (fathead minnow) - 460
mg/l - 96 h
(US-EPA)

Toxicity to daphnia

Immobilization EC50 - Daphnia magna (Water flea) - 230 mg/l

and other aquatic invertebrates	- 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 700 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 51 mg/l - 21 d (OECD Test Guideline 211)
phenylacetaldehyde	
Toxicity to fish	LC50 - Danio rerio (zebra fish) - > 6,2 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 20 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 1,6 mg/l - 72 h (OECD Test Guideline 201)
Pyruvaldehyde	
Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - ca. 1.000 mg/l - 96 h (DIN 38412)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 404 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - 731,5 mg/l - 72 h (DIN 38412)
Toxicity to bacteria	static test EC50 - Pseudomonas putida - 11 mg/l - 17 h (DIN 38421 TEIL 8)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 3316

IMDG: 3316

IATA: 3316

14.2 UN proper shipping name

ADR/RID: CHEMICAL KIT (butanedione)

IMDG: CHEMICAL KIT (butanedione)

IATA: Chemical kit (butanedione)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use**National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

H1 ACUTE TOXIC

E2 ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information**Full text of H-Statements**

H225	Highly flammable liquid and vapor.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H300	Fatal if swallowed.

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Classification of the mixture

Acute Tox.4	H302
Acute Tox.1	H310
Skin Irrit.2	H315
Eye Dam.1	H318
Skin Sens.1	H317
Muta.2	H341
Carc.2	H351
Aquatic Chronic2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

Further information

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