

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.15

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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 : MISA Group 23 Chlorinated Hydrocarbon Mix

Product Number : 48136

Brand : Supelco

REACH No. : 01-2119480404-41-XXXX

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3**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 3)	H331: Toxic if inhaled.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Eye irritation, (Category 2)	H319: Causes serious eye irritation.
Carcinogenicity, (Category 1B)	H350: May cause cancer.
Specific target organ toxicity - single exposure, (Category 3), Central nervous system	H336: May cause drowsiness or dizziness.
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic	H410: Very toxic to aquatic life with long

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word	Danger
Hazard Statements	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none
EUH208	Contains: 1,2,3-trichlorobenzene. May produce an allergic reaction. Restricted to professional users.

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word	Danger
Hazard Statements	
H331	Toxic if inhaled.
H350	May cause cancer.
Precautionary Statements	
P202	Do not handle until all safety precautions have been read and understood.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

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
Dichloromethane			
CAS-No.	75-09-2	Skin Irrit. 2; Eye Irrit. 2; Carc. 2; STOT SE 3; H315, H319, H351, H336 Concentration limits: 20 %: STOT SE 3, H336;	>= 90 - <= 100 %
EC-No.	200-838-9		
Index-No.	602-004-00-3		
Registration number	01-2119480404-41-XXXX		
Hexachloroethane			
CAS-No.	67-72-1	Eye Irrit. 2; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1; H319, H351, H400, H410 M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1	>= 0,1 - < 0,25 %
EC-No.	200-666-4		
	*		
Hexachlorobenzene			
CAS-No.	118-74-1	Carc. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H350, H372, H400, H410 M-Factor - Aquatic Acute: 100 M-Factor - Aquatic Chronic: 100	>= 0,1 - < 0,25 %
EC-No.	204-273-9		
Index-No.	602-065-00-6		
	*		
1,2,3,4,5,5-Hexachlorocyclopentadiene			
CAS-No.	77-47-4	Acute Tox. 4; Acute Tox. 1; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H330, H311, H314, H318, H400, H410 M-Factor - Aquatic Acute: 100	>= 0,1 - < 0,25 %
EC-No.	201-029-3		
Index-No.	602-078-00-7		
	*		

		M-Factor - Aquatic Chronic: 10	
Hexachlorobuta-1,3-diene			
CAS-No.	87-68-3	Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1; H301, H310, H315, H319, H351, H400, H410	>= 0,1 - < 0,25 %
EC-No.	201-765-5		
	*		
1,2,3-trichlorobenzene			
CAS-No.	87-61-6	Skin Sens. 1B; Aquatic Acute 1; Aquatic Chronic 1; H317, H400, H410	>= 0,1 - < 0,25 %
EC-No.	201-757-1		
	*		
1,2,3,5-Tetrachlorobenzene			
CAS-No.	634-90-2	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H400, H410	>= 0,1 - < 0,25 %
EC-No.	211-217-7	M-Factor - Aquatic Acute: 1	
	*		
Pentachlorobenzene			
CAS-No.	608-93-5	Flam. Sol. 1; Aquatic Acute 1; Aquatic Chronic 1; Acute Tox. 4; H228, H400, H410, H302	>= 0,1 - < 0,25 %
EC-No.	210-172-0	M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	
Index-No.	602-074-00-5		
	*		
1,2,4,5-Tetrachlorobenzene			
CAS-No.	95-94-3	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H400, H410	>= 0,1 - < 0,25 %
EC-No.	202-466-2	M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1	
	*		
1,2,3,4-Tetrachlorbenzol			
CAS-No.	634-66-2	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H400, H410	>= 0,1 - < 0,25 %
EC-No.	211-214-0	M-Factor - Aquatic Acute: 1	
	*		

*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

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

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Hydrogen chloride gas

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

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

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. 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

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

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

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Heat sensitive.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

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

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

required

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols 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 ABEK

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

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|-------------------|
| a) Physical state | liquid |
| 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 | No data available |
| i) Autoignition temperature | Not applicable |

- | | |
|---|--|
| 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 | Not classified as explosive. |
| t) Oxidizing properties | none |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with:

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Dimethylformamide, Strong bases, Bases, Oxidizing agents, Alkali metals, Strong acids and strong bases, Strong oxidizing agents, Amines, Vinyl compounds, acids, Aluminum, Magnesium

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

Oral: No data available

Acute toxicity estimate Oral - > 2.000 mg/kg
(Calculation method)

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

Acute toxicity estimate Inhalation - 4 h - 9 mg/l - vapor (Calculation method)

Symptoms: Possible symptoms: , mucosal irritations

Acute toxicity estimate Dermal - > 2.000 mg/kg
(Calculation method)

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye irritation.

Respiratory or skin sensitization

Mixture may produce an allergic reaction.

Germ cell mutagenicity

No data available

Carcinogenicity

Possible carcinogen.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Mixture may cause drowsiness or dizziness.

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.

Dichloromethane is metabolized in the body producing carbon monoxide which increases and sustains carboxyhemoglobin levels in the blood, reducing the oxygen-carrying capacity of the blood., Acts as a simple asphyxiant by displacing air., anesthetic effects, Breathing difficulties, Headache, Dizziness, Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, Contact with eyes can cause:, Redness, Blurred vision, Provokes tears.

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

Dichloromethane

Acute toxicity

LD50 Oral - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 401)

LC50 Inhalation - Mouse - 4 h - 86 mg/l - vapor

Remarks: (ECHA)

Symptoms: Possible damages:, mucosal irritations

LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations - 4 h

(OECD Test Guideline 404)

Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

Remarks: (ECHA)

Remarks: Risk of corneal clouding.

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Result: positive

Test Type: Ames test

Test system: Salmonella typhimurium

Result: positive

Method: OECD Test Guideline 474

Species: Mouse - male and female - Bone marrow

Result: negative

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause drowsiness or dizziness. - Central nervous system

Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure

Aspiration hazard

No data available

Hexachloroethane

Acute toxicity

LD50 Oral - Rat - 4.460 mg/kg

Remarks: (RTECS)

Inhalation: No data available

LD50 Dermal - Rabbit - 32.000 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation - 1 h

(OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes. - 24 h

Remarks: (ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

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

No data available

Aspiration hazard

No data available

Hexachlorobenzene

Acute toxicity

LD50 Oral - Rat - 10.000 mg/kg

LD50 Oral - Mouse - 4.000 mg/kg

LD50 Oral - Cat - 1.700 mg/kg

LD50 Oral - Rabbit - 2.600 mg/kg

LD50 Oral - Guinea pig - > 3.000 mg/kg

LD50 Oral - Quail - > 6.400 mg/kg

LD50 Oral - Mammal - > 5.000 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Change in motor activity (specific assay).

LC50 Inhalation - Rat - 3.600 mg/m³ - dust/mist
LC50 Inhalation - Mouse - 4.000 mg/m³ - dust/mist
LC50 Inhalation - Cat - 1.600 mg/m³ - dust/mist
LC50 Inhalation - Rabbit - 1.800 mg/m³ - dust/mist
Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburnlike responses to edematous, vesiculated lesions, or bullae

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Possible human carcinogen

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Ingestion - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

1,2,3,4,5,5-Hexachlorocyclopentadiene

Acute toxicity

LD50 Oral - Rat - male and female - 1.400 mg/kg
(OECD Test Guideline 401)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
LC50 Inhalation - Rat - male - 4,0 h - 0,018 mg/l - vapor
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - 430,0 mg/kg
Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit
Result: Severe skin irritation - 4 h
Remarks: (RTECS)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit
Result: Causes serious eye damage.

(OECD Test Guideline 405)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Method: OECD Test Guideline 478

Species: Mouse - male and female

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

Hexachlorobuta-1,3-diene

Acute toxicity

LD50 Oral - Rat - 82,0 mg/kg

LC50 Inhalation - Mouse - 370,0 mg/m³ - dust/mist

LD50 Dermal - Rabbit - 100,0 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Suspected of causing cancer.

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

1,2,3-trichlorobenzene

Acute toxicity

LD50 Oral - Rat - male and female - > 5.000 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: negative

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: slight irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

(OECD Test Guideline 429)

Germ cell mutagenicity

No data available

Test Type: Ames test

Test system: 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

1,2,3,5-Tetrachlorobenzene

Acute toxicity

LD50 Oral - Rat - 1.727 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Diarrhea

Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

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

Pentachlorobenzene**Acute toxicity**

LD50 Oral - Rat - 1.080 mg/kg

Remarks: Behavioral:General anesthetic.

Behavioral:Tremor.

Inhalation: No data available

LD50 Dermal - Rat - > 2.500 mg/kg

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

1,2,4,5-Tetrachlorobenzene**Acute toxicity**

LD50 Oral - Rat - 1.500 mg/kg

Remarks: Behavioral:General anesthetic.

Behavioral:Somnolence (general depressed activity).
Behavioral:Convulsions or effect on seizure threshold.
(RTECS)
Acute toxicity estimate Oral - 1.500 mg/kg
(ATE value derived from LD50/LC50 value)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

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

1,2,3,4-Tetrachlorbenzol

Acute toxicity

LD50 Oral - Rat - 1.167 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Diarrhea

Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

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

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 components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

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

No data available

Components**Dichloromethane**

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 193,00 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Daphnia magna (Water flea) - 27 mg/l - 48 h (US-EPA)
Toxicity to bacteria	static test EC50 - activated sludge - 2.590 mg/l - 40 min (OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	flow-through test LC50 - Pimephales promelas (fathead minnow) - 471 mg/l - 8 d Remarks: (ECHA)

Hexachloroethane

Toxicity to fish	LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 0,84 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	LC50 - <i>Daphnia magna</i> (Water flea) - 1,36 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	static test ErC50 - <i>Pseudokirchneriella subcapitata</i> - 0,88 mg/l - 72 h (OECD Test Guideline 201)

Hexachlorobenzene

Toxicity to fish	LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 7,6 mg/l - 96,0 h NOEC - <i>Pimephales promelas</i> (fathead minnow) - > 0,0048 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - > 0,005 mg/l - 48 h

1,2,3,4,5,5-Hexachlorocyclopentadiene

Toxicity to fish	static test LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 0,13 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - <i>Daphnia magna</i> (Water flea) - 0,04 mg/l - 48 h (OECD Test Guideline 202)

Hexachlorobuta-1,3-diene

Toxicity to fish	LC50 - <i>Pimephales promelas</i> (fathead minnow) - 0,09 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - <i>Daphnia</i> - 0,5 mg/l - 24 h
Toxicity to fish(Chronic toxicity)	LOEC - <i>Pimephales promelas</i> (fathead minnow) - 0,013 mg/l - 28 d

1,2,3-trichlorobenzene

Toxicity to fish	LC50 - <i>Gambusia affinis</i> (Mosquito fish) - 2,2 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 1,45 mg/l - 48 h

1,2,3,5-Tetrachlorobenzene

Toxicity to fish	LC50 - <i>Lepomis macrochirus</i> - 1,6 mg/l - 96 h mortality NOEC - <i>Cyprinodon variegatus</i> (sheepshead minnow) - 1 mg/l - 96 h
Toxicity to daphnia and other aquatic	EC50 - <i>Daphnia magna</i> (Water flea) - 0,86 mg/l - 48 h

invertebrates

Pentachlorobenzene

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 0,247 mg/l - 96,0 h
Toxicity to fish(Chronic toxicity)	mortality LOEC - Cyprinodon variegatus (sheepshead minnow) - 0,052 mg/l - 28 d mortality NOEC - Pimephales promelas (fathead minnow) - > 0,055 mg/l - 31 d
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	LC50 - Daphnia magna (Water flea) - 0,24 mg/l - 21 d mortality LOEC - Daphnia magna (Water flea) - 0,18 mg/l - 21 d

1,2,4,5-Tetrachlorobenzene

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 0,32 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	LC50 - Daphnia magna (Water flea) - > 530 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	IC50 - Pseudokirchneriella subcapitata (green algae) - 47 mg/l - 96 h Remarks: (above the solubility limit in the test medium) (ECOTOX Database)
Toxicity to fish(Chronic toxicity)	mortality LOEC - Jordanella floridae - > 0,238 mg/l - 10 d Remarks: (ECOTOX Database)

1,2,3,4-Tetrachlorbenzol

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 1,1 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia - 0,13 mg/l - 48 h
Toxicity to fish(Chronic toxicity)	mortality NOEC - Pimephales promelas (fathead minnow) - 0,25 mg/l - 33 d mortality LOEC - Pimephales promelas (fathead minnow) - 0,41 mg/l - 33 d

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1593

IMDG: 1593

IATA: 1593

14.2 UN proper shipping name

ADR/RID: DICHLOROMETHANE

IMDG: DICHLOROMETHANE

IATA: Dichloromethane

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Hexachlorobenzene

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Hexachloroethane

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Dichloromethane

Regulation (EU) No 2024/590 on substances that : Dichloromethane

deplete the ozone layer

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Hexachlorobenzene
Hexachlorobuta-1,3-diene
Pentachlorobenzene

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.

E1	ENVIRONMENTAL HAZARDS
H2	ACUTE TOXIC
E1	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

H228	Flammable solid.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic 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.
H330	Fatal if inhaled.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic 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.3	H331
Skin Irrit.2	H315
Eye Irrit.2	H319
Carc.1B	H350
STOT SE3	H336
Aquatic Acute1	H400
Aquatic Chronic1	H410

Classification procedure:

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

Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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