Safety Data Sheet

21 Mix fumigants in n-hexane

Version：V2.0.0.1
Report No.：BWQ0686-2016-MSDS-EP
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*Prepared in accordance with EU REACH Regulation (REACH 1907/2006 with amendment 2020/878)

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

1.1 Product identifier

Product Name	21 Mix fumigants in n-hexane
Cat No.	BWQ0686-2016
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable
REACH Registration Number	-
UFI	No information available

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

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	Weiyel Inc
Address of the company	Hedian Light Industrial Park, Chengguan Town, Shangcheng County, Xinyang City, Henan Province, China
Post code	465350
Telephone number	010-58103678
Fax number	010-84840368
E-mail address	info@weiyel.com

1.4 Emergency telephone number

Emergency telephone number	010-58103678
Opening hours	24h

2 Hazards identification

2.1 CLP classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707

Flammable liquids	Category 2
Aspiration hazard	Category 1
Skin Corrosion/Irritation	Category 2
Specific target organ toxicity - single exposure; narcotic effects	Category 3

Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity - repeated exposure	Category 1
Hazardous to the aquatic environment - long-term (chronic) hazard	Category 3
Hazardous to the ozone layer	Category 1

2.2 Label elements

Hazard pictograms	
Signal word	**Danger**

Hazard statements

H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H361df	Suspected of damaging fertility and the unborn child
H372	Causes damage to organs through prolonged or repeated exposure(nervous system)
H412	Harmful to aquatic life with long lasting effects
H420	Harms public health and the environment by destroying ozone in the upper atmosphere
EUH066	Repeated exposure may cause skin dryness or cracking
EUH208	Contains sensitising substance. May produce an allergic reaction

Precautionary statements

- Prevention

P201	Obtain special instructionsbefore use.
P202	Do not handle until allsafety precautions havebeen read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe gas/mist/vapour/spray.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.

P280	Wear protective gloves/protective clothing/eye protection/face protection.

◆ Response

P312	Call a POISON CENTRE/ doctor/… if you feel unwell.
P314	Get medical advice/ attention if you feel unwell.
P321	Specific treatment (see related instructions on the label).
P331	Do NOT induce vomiting.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

◆ Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.
P502	Refer to manufacturer or supplier for information on recovery or recycling.

2.3 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
1,1,1-trichloroethane	Insufficient information, temporarily unable to evaluate
trans-1,3-Dichloropropene	Insufficient information, temporarily unable to evaluate
(Z)-1,3-Dichloro-1-propene	Insufficient information, temporarily unable to evaluate
Trichloroethylene	Not PBT/vPvB
1,2-dichloropropane	Not PBT/vPvB
bromodichloromethane	Insufficient information, temporarily unable to evaluate
1,1,2-trichloroethane	Insufficient information, temporarily unable to evaluate
Tetrachloroethylene	Not PBT/vPvB
Dibromochloromethane	Insufficient information, temporarily unable to evaluate
Bromoform	Not PBT/vPvB
1,1,2,2-tetrachloroethane	Insufficient information, temporarily unable to evaluate
1,3-dichlorobenzene	Not PBT/vPvB

1,4-dichlorobenzene	Not PBT/vPvB
1,2-dichlorobenzene	Not PBT/vPvB
1,2,4-trichlorobenzene	Insufficient information, temporarily unable to evaluate
1,2,3-trichlorobenzene	Insufficient information, temporarily unable to evaluate
Hexachlorobuta-1,3-diene	Insufficient information, temporarily unable to evaluate
1,2-dibromoethane	Not PBT/vPvB
1,2-dichloroethane	Not PBT/vPvB
Carbon tetrachloride	Not PBT/vPvB
Chloroform	Not PBT/vPvB
N-hexane	Not PBT/vPvB

◆ Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
1,1,1-trichloroethane	Insufficient information, temporarily unable to evaluate
trans-1,3-Dichloropropene	Insufficient information, temporarily unable to evaluate
(Z)-1,3-Dichloro-1-propene	Insufficient information, temporarily unable to evaluate
Trichloroethylene	Insufficient information, temporarily unable to evaluate
1,2-dichloropropane	Insufficient information, temporarily unable to evaluate
bromodichloromethane	Insufficient information, temporarily unable to evaluate
1,1,2-trichloroethane	Insufficient information, temporarily unable to evaluate
Tetrachloroethylene	Insufficient information, temporarily unable to evaluate
Dibromochloromethane	Insufficient information, temporarily unable to evaluate
Bromoform	Insufficient information, temporarily unable to evaluate
1,1,2,2-tetrachloroethane	Insufficient information, temporarily unable to evaluate
1,3-dichlorobenzene	Insufficient information, temporarily unable to evaluate
1,4-dichlorobenzene	Insufficient information, temporarily unable to evaluate
1,2-dichlorobenzene	Insufficient information, temporarily unable to evaluate
1,2,4-trichlorobenzene	Insufficient information, temporarily unable to evaluate
1,2,3-trichlorobenzene	Insufficient information, temporarily unable to evaluate
Hexachlorobuta-1,3-diene	Insufficient information, temporarily unable to evaluate
1,2-dibromoethane	Insufficient information, temporarily unable to evaluate
1,2-dichloroethane	Insufficient information, temporarily unable to evaluate
Carbon tetrachloride	Insufficient information, temporarily unable to evaluate
Chloroform	Insufficient information, temporarily unable to evaluate
N-hexane	Insufficient information, temporarily unable to evaluate

◆ Other

	Not applicable.

3 Composition/information on ingredients

3.1 Substance

	Not applicable

3.2 Mixture

Component	Weight % content(or range)	Classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707 [CLP]	Specific Conc. Limits, M-factors
1,1,1-trichloroethane CAS : 71-55-6 EC : 200-756-3 Index No. : 602-013-00-2	0.152	Acute Toxicity - Inhalation, Category 4, H332; Hazardous to the ozone layer, Category 1, H420	-
trans-1,3-Dichloropropene CAS : 10061-02-6 EC : 431-460-4 Index No. : -	0.152	Flammable liquids, Category 3, H226; Acute Toxicity - Oral, Category 3, H301; Aspiration hazard, Category 1, H304; Acute Toxicity - Dermal, Category 3, H311; Skin Corrosion/Irritation, Category 2, H315; Sensitization - skin, Category 1, H317; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	M=10;M(Chronic)=10
(Z)-1,3-Dichloro-1-propene CAS : 10061-01-5 EC : 233-195-8 Index No. : 602-030-00-5	0.152	Flammable liquids, Category 3, H226; Acute Toxicity - Oral, Category 3, H301; Aspiration hazard, Category 1, H304; Acute Toxicity - Dermal, Category 3, H311; Skin Corrosion/Irritation, Category 2, H315; Sensitization - skin, Category 1, H317; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 4, H332; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
Trichloroethylene CAS : 79-01-6 EC : 201-167-4 Index No. : 602-027-00-9	0.152	Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	-
1,2-dichloropropane CAS : 78-87-5 EC : 201-152-2 Index No. : 602-020-00-0	0.152	Flammable liquids, Category 2, H225; Acute Toxicity - Oral, Category 4, H302; Acute Toxicity - Inhalation, Category 4, H332; Carcinogenicity, Category 1B, H350	-
bromodichloromethane CAS : 75-27-4 EC : 200-856-7	0.152	Acute Toxicity - Oral, Category 4, H302	-

Index No. : -			
1,1,2-trichloroethane CAS : 79-00-5 EC : 201-166-9 Index No. : 602-014-00-8	0.152	Acute Toxicity - Oral, Category 4, H302; Acute Toxicity - Dermal, Category 4, H312; Acute Toxicity - Inhalation, Category 4, H332; Carcinogenicity, Category 2, H351; Repeated exposure may cause skin dryness or cracking, EUH066	-
Tetrachloroethylene CAS : 127-18-4 EC : 204-825-9 Index No. : 602-028-00-4	0.152	Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
Dibromochloromethane CAS : 124-48-1 EC : 204-704-0 Index No. : -	0.152	Acute Toxicity - Oral, Category 4, H302	-
Bromoform CAS : 75-25-2 EC : 200-854-6 Index No. : 602-007-00-X	0.152	Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1,1,2,2-tetrachloroethane CAS : 79-34-5 EC : 201-197-8 Index No. : 602-015-00-3	0.152	Acute Toxicity - Dermal, Category 1, H310; Acute Toxicity - Inhalation, Category 2, H330; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1,3-dichlorobenzene CAS : 541-73-1 EC : 208-792-1 Index No. : 602-067-00-7	0.152	Acute Toxicity - Oral, Category 4, H302; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1,4-dichlorobenzene CAS : 106-46-7 EC : 203-400-5 Index No. : 602-035-00-2	0.152	Serious eye damage/irritation, Category 2, H319; Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
1,2-dichlorobenzene CAS : 95-50-1 EC : 202-425-9 Index No. : 602-034-00-7	0.152	Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
1,2,4-trichlorobenzene CAS : 120-82-1 EC : 204-428-0 Index No. : 602-087-00-6	0.152	Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
1,2,3-trichlorobenzene CAS : 87-61-6 EC : 201-757-1 Index No. : -	0.152	Sensitization - skin, Category 1B, H317; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard,	-

		Category 1, H410	
Hexachlorobuta-1,3-diene CAS : 87-68-3 EC : 201-765-5 Index No. : -	0.152	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 2, H310; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 1, H318; Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
1,2-dibromoethane CAS : 106-93-4 EC : 203-444-5 Index No. : 602-010-00-6	0.152	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1,2-dichloroethane CAS : 107-06-2 EC : 203-458-1 Index No. : 602-012-00-7	0.152	Flammable liquids, Category 2, H225; Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Carcinogenicity, Category 1B, H350	-
Carbon tetrachloride CAS : 56-23-5 EC : 200-262-8 Index No. : 602-008-00-5	0.152	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412; Hazardous to the ozone layer, Category 1, H420	H372:C ≥ 1%|H373:0.2% ≤ C < 1%
Chloroform CAS : 67-66-3 EC : 200-663-8 Index No. : 602-006-00-4	0.152	Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 1, H372	-
N-hexane CAS : 110-54-3 EC : 203-777-6 Index No. : 601-037-00-0	96.808	Flammable liquids, Category 2, H225; Aspiration hazard, Category 1, H304; Skin Corrosion/Irritation, Category 2, H315; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-

4 First-aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Ingestion	Rinse mouth. Do NOT induce vomiting. Rest. Refer for medical attention.
Inhalation	Fresh air, rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Use of water spray when fighting fire may be inefficient.

5.2 Specific hazards arising from the substance or mixture

1	Will form explosive mixtures with air.
2	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
3	Vapours may travel to source of ignition and flash back.
4	Liquid and vapour are flammable.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment,do not breathe gas/mist/vapour/spray.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.
4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Cut off the source of the leak as much as possible.
9	Keep leaks in a ventilated place.
10	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
11	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
12	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
13	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4 Reference to other sections

1	Personal Protective Equipment advice is contained in Section 8 of the SDS.
2	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

- Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

- Measures to prevent fire

1	Use only non-sparking tools.
2	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
3	Use explosion proof equipment.
4	Keep away from heat/sparks/open flames/ hot surfaces.

◆ Measures to prevent aerosol and dust generation

1	Not applicable.

◆ Advice on general occupational hygiene

1	Wash hands and face after using the substances.
2	Replace the contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

7.3 Specific end use(s)

1	In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.

8 Exposure controls/personal protection

8.1 Control parameters

◆Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
1,1,1-trichloroethane	Japan - JSOH(2024–2025)	200	1090	-	-
	Permissible exposure standards for workers in the workplace	350	1910	437.5	1910
	European Union	100	555	200	1110
	France	100	555	200	1110
	Germany (AGS)	100	550	100	550
	Germany (DFG)	100	550	100	550
Trichloroethylene	Japan - JSOH(2024–2025)	25	135	-	-
	Permissible exposure standards for workers in the workplace	50	269	75	336.25
	European Union	10	54.7	30	164.1
	France	10	54.7	30	164.1
	Germany (AGS)	6	33	48	264

	Italy	10	54.7	30	164.1
1,2-dichloropropane	Japan - JSOH(2024–2025)	1	4.6	-	-
	Permissible exposure standards for workers in the workplace	75	347	112.5	433.75
	France	75	350	-	-
	Austria	75	350	375	1750
	Belgium	10	47	-	-
	Denmark	75	350	150	700
1,1,2-trichloroethane	Japan - JSOH(2024–2025)	10	55	-	-
	Permissible exposure standards for workers in the workplace	10	55	15	82.5
	Germany (AGS)	1	5.5	2	11
	Germany (DFG)	1	5.5	2	11
	Austria	10	55	50	275
	Belgium	10	56	-	-
Tetrachloroethylene	Permissible exposure standards for workers in the workplace	50	339	75	423.75
	European Union	20	138	40	275
	France	20	138	40	275
	Germany (AGS)	10	69	20	138
	Germany (DFG)	10	69	20	138
	Italy	20	138	40	275
Bromoform	Japan - JSOH(2024–2025)	1	10.3	-	-
	Permissible exposure standards for workers in the workplace	0.5	5.2	1.5	10.4
	France	0.5	5	-	-
	Austria	0.5	5	-	-
	Belgium	0.5	5.3	-	-
	Denmark	0.5	5	1	10
1,1,2,2-tetrachloroethane	Japan - JSOH(2024–2025)	1	6.9	-	-

	Permissible exposure standards for workers in the workplace	1	6.9	2	13.8
	France	1	7	5	35
	Germany (AGS)	1	7	2	14
	Germany (DFG)	2	14	4	28
	Austria	1	7	-	-
1,3-dichlorobenzene	Germany (AGS)	2	12	4	24
	Germany (DFG)	2	12	4	24
	Austria	3	20	12	80
	Hungary	-	12	-	24
	Latvia	-	20	-	-
	Switzerland	2	12	4	24
1,4-dichlorobenzene	Japan - JSOH(2024–2025)	10	60	-	-
	Permissible exposure standards for workers in the workplace	75	450	112.5	562.5
	European Union	2	12	10	60
	France	0.75	4.5	10	60
	Germany (AGS)	2	12	4	24
	Germany (DFG)	2	12	4	24
1,2-dichlorobenzene	Japan - JSOH(2024–2025)	25	150	-	-
	Permissible exposure standards for workers in the workplace	-	-	-	-
	European Union	20	122	50	306
	France	20	122	50	306
	Germany (AGS)	10	61	20	122
	Germany (DFG)	10	61	20	122
1,2,4-trichlorobenzene	Permissible exposure standards for workers in the workplace	-	-	-	-
	European Union	2	15.1	5	37.8
	France	2	15.1	5	37.8
	Germany (AGS)	0.5	3.8	2	15.2
	Germany (DFG)	0.5	0.38	1	0.76

	Italy	2	15.1	5	37.8
1,2,3-trichlorobenzene	Germany (DFG)	0.5	0.38	1	0.76
	Denmark	5	37	10	76
	Finland	5	38	10	75
	Poland	-	15	-	30
	Canada - Ontario	-	-	5	-
Hexachlorobuta-1,3-diene	Japan - JSOH(2024–2025)	0.01	0.12	-	-
	Permissible exposure standards for workers in the workplace	0.02	0.21	0.06	0.63
	Germany (AGS)	0.02	0.22	0.04	0.44
	Germany (DFG)	0.02	0.22	0.04	0.44
	Belgium	0.02	0.21	-	-
	Denmark	0.02	0.24	0.04	0.48
1,2-dibromoethane	Permissible exposure standards for workers in the workplace	20	154	30	192.5
	European Union	0.1	0.8	-	-
	France	0.1	0.8	-	-
	Germany (AGS)	0.1	0.8	-	-
	Italy	0.1	0.8	-	-
	United Kingdom	0.5	3.9	-	-
1,2-dichloroethane	Japan - JSOH(2024–2025)	10	40	-	-
	Permissible exposure standards for workers in the workplace	10	40	15	60
	European Union	2	8.2	-	-
	France	2	8.2	-	-
	Italy	2	8.2	-	-
	United Kingdom	5	21	-	-
Carbon tetrachloride	Japan - JSOH(2024–2025)	5	31	-	-
	Permissible exposure standards for workers in the workplace	2	13	4	19.5
	European Union	1	6.4	5	32

	France	1	6.4	5	32
	Germany (AGS)	0.5	3.2	1	6.4
	Germany (DFG)	0.5	3.2	1	6.4
Chloroform	Japan - JSOH(2024–2025)	3	14.7	-	-
	Permissible exposure standards for workers in the workplace	-	-	-	-
	European Union	2	10	-	-
	France	2	10	-	-
	Germany (AGS)	0.5	2.5	1	5
	Germany (DFG)	0.5	2.5	1	5
N-hexane	Japan - JSOH(2024–2025)	40	140	-	-
	Permissible exposure standards for workers in the workplace	50	176	75	220
	European Union	20	72	-	-
	France	20	72	-	-
	Germany (AGS)	50	180	400	1440
	Germany (DFG)	50	180	400	1440

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
1,1,1-trichloroethane	USA -ACGIH	Methyl chloroform(EXA)	20ppm	Prior to last shift of work week	
		Methyl chloroform(Urine)	700μg/L	End of shift	
Trichloroethylene	SCOEL(EU)	trichloroacetic acid/urine	20mg/L	end of the last shift/work-week/ shift period	
		Trichloroacetic acid(Urine)	15mg/L	End of shift at end of work week	
		Trichloroethanol, without hydrolysis(Blood)	0.5mg/L	End of shift at end of work week	
		Trichloroethylene(Blood)	Semi-quantitative	End of shift at end of work week	
		Trichloroethylene(EXA)	Semi-quantitative	End of shift at end of work week	

Tetrachloroethylene	SCOEL(EU)	tetrachloroethylene/blood	0.4mg/L	prior to the last shift of a work-week	
		tetrachloroethylene/end-exhaled air	3ppm(0.435mg/m3)	prior to the last shift of a work-week	
		Tetrachloroethylene(EXA)	3ppm	Prior to shift	
		Tetrachloroethylene(Blood)	0.5mg/L	Prior to shift	
N-hexane	USA -ACGIH	2,5-Hexanedione, without hydrolysis(Urine)	0.5mg/L	End of shift	

◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 and GBZ/T 160 series standard Determination of toxic substances in workplace air.

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
1,1,1-trichloroethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
trans-1,3-Dichloropropene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
(Z)-1,3-Dichloro-1-propene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Trichloroethylene	Inhalation	No data available	No data available	No data available	54.7 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2-dichloropropane	Inhalation	No data available	No data available	No data available	28.88 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
bromodichloromethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,1,2-trichloroethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Tetrachloroethyle	Inhalation	No data available	No data available	No data available	138 mg/m3

ne	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Dibromochloromethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Bromoform	Inhalation	No data available	No data available	No data available	0.592 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,1,2,2-tetrachloroethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,3-dichlorobenzene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,4-dichlorobenzene	Inhalation	No data available	No data available	No data available	46.1 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2-dichlorobenzene	Inhalation	No data available	No data available	No data available	4.2 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2,4-trichlorobenzene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2,3-trichlorobenzene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Hexachlorobuta-1,3-diene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2-dibromoethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
1,2-dichloroethane	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Carbon tetrachloride	Inhalation	No data available	No data available	No data available	1.29 mg/m3
	Oral	No data available	No data available	No data available	No data available

	Dermal	No data available	No data available	No data available	No data available
Chloroform	Inhalation	No data available	No data available	2.5 mg/m3	2.5 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
N-hexane	Inhalation	No data available	No data available	No data available	75 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Component	A	B	C	D	E	F	G	H
1,1,1-trichloroethane	130 µg/L	13 µg/L	No data available	No data available	No data available	No data available	No data available	No potential for bioaccumulation
Trichloroethylene	115 - 576 µg/L	11.5 µg/L	2.6 mg/L	316 - 10200 µg/kg sediment dw	204 µg/kg sediment dw	No hazard identified	155 - 1700 µg/kg soil dw	13.83 mg/kg food
1,2-dichloropropane	82 - 400 µg/L	8.2 - 40 µg/L	590 - 8600 µg/L	676 - 4150 µg/kg sediment dw	67.6 - 415 µg/kg sediment dw	No hazard identified	87.9 - 600 µg/kg soil dw	No potential for bioaccumulation
Tetrachloroethylene	51 µg/L	5.1 µg/L	11.2 mg/L	903 µg/kg sediment dw	90.3 µg/kg sediment dw	8.2 µg/m³	10 µg/kg soil dw	No potential for bioaccumulation
Bromoform	13 µg/L	1.3 µg/L	No hazard identified	49.5 µg/kg sediment dw	4.95 µg/kg sediment dw	No hazard identified	2.26 µg/kg soil dw	No potential for bioaccumulation
1,4-dichlorobenzene	20 µg/L	2 µg/L	8.6 mg/L	980 µg/kg sediment dw	98 µg/kg sediment dw	No data available	108 µg/kg soil dw	10 mg/kg food
1,2-dichlorobenzene	3.7 µg/L	370 ng/L	4.7 mg/L	177 µg/kg sediment dw	17.7 µg/kg sediment dw	No hazard identified	33.3 µg/kg soil dw	5.56 mg/kg food
1,2-dichloroethane	1.1 mg/L	110 µg/L	27.8 mg/L	11.1 mg/kg sediment dw	1.11 mg/kg sediment dw	3.4 µg/m³	1.8 mg/kg soil dw	8.33 mg/kg food
Carbon tetrachloride	220 µg/L	22 µg/L	30 mg/L	No data available	No data available	No hazard identified	No data available	222 µg/kg food
Chloroform	146 µg/L	15 µg/L	48 µg/L	450 µg/kg sediment dw	90 µg/kg sediment dw	No hazard identified	560 µg/kg soil dw	No potential for bioaccumulation
N-hexane	No data available	No data available	No data available	No data available	No data available	No hazard	No data available	No potential

						identified		for bioaccumulation

Note 1:

A: Freshwater; B: Seawater; C: Sewage treatment plant; D: Sediment (freshwater); E: Sediment (seawater); F: Air; G: Soil; H: Secondary poisoning(Hazard for Predators).

Note 2:

The PNEC values of the remaining components not shown in the product are not available yet.

8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.2.2 Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

8.2.3 Environmental exposure controls

Environmental exposure controls	No information available

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	colorless liquid
Colour	colorless liquid
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-95 (N-hexane)
Initial boiling point and boiling range(°C)	69 (N-hexane)
Flash point(Closed cup,°C)	-22 (N-hexane)
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit：7.5 (N-hexane)；Lower limit：1.1 (N-hexane)
Vapor pressure	17kPa (20°C,N-hexane)
Vapor density(Air = 1)	3.0 (N-hexane)

Relative density(Water=1)	0.66~0.68 (20 °C,N-hexane)
Solubility	Insoluble in water (N-hexane)
n-octanol/water partition coefficient	3.9 (N-hexane)
Auto-ignition temperature(°C)	225 (N-hexane)
Decomposition temperature(°C)	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Particle characteristics	Not applicable

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Information with regard to physical hazard classes	No information available

9.2.2 Other safety characteristics

Other safety characteristics	No information available

10 Stability and reactivity

Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	Reactions with metals form metal organic coumpounds. In contact with metals, oxidants, triethyl aluminium, amines, boranes and their derivatives may cause an explosion severely. In contact with an open flame may cause a fire or explosion.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	Metal, oxidantss and alkali. Borane class and its derivatives, amines, metals, oxidants, triethyl aluminium, calcium and ethylene. Oxidantss and halogen.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 with amendment 2023/707

21 Mix fumigants in n-hexane	
Skin corrosion/irritation	Causes skin irritation(Category 2)
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Suspected of damaging fertility and the unborn child(Category 2)
STOT-single exposure	May cause drowsiness or dizziness(Category 3)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure(nervous system)(Category 1)
Aspiration hazard	May be fatal if swallowed and enters airways(Category 1)
Germ cell mutagenicity	Based on available data, the classification criteria are not met

Acute toxicity

Component	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
Chloroform	695mg/kg(Rat)	> 20000mg/kg(Rabbit)	47.702mg/L(Rat)
1,1,2,2-tetrachloroethane	200mg/kg(Rat)	No information available	No information available
Trichloroethylene	4920mg/kg(Rat)	> 20000mg/kg(Rabbit)	45.409mg/L(Mouse)
bromodichloromethane	430mg/kg(Rat)	No information available	No information available
1,4-dichlorobenzene	500~5000mg/kg(Rat)	> 2000mg/kg(Rabbit)	No information available
1,1,1-trichloroethane	9600mg/kg(Rat)	No information available	98.209mg/L(Rat)
1,1,2-trichloroethane	836mg/kg(Rat)	5350mg/kg(Rabbit)	No information available
1,2-dibromoethane	108mg/kg(Rat)	300mg/kg(Rabbit)	No information available
1,2-dichlorobenzene	500mg/kg(Rat)	> 10000mg/kg(Rabbit)	No information available
Carbon tetrachloride	2350mg/kg(Rat)	> 20000mg/kg(Rabbit)	50.330mg/L(Rat)
Tetrachloroethylene	2629mg/kg(Rat)	No information available	35.269mg/L(Mouse)
Bromoform	933mg/kg(Rat)	No information available	No information available
1,2,3-trichlorobenzene	1830mg/kg(Rat)	No information available	No information available
1,2-dichloroethane	670mg/kg(Rat)	2800mg/kg(Rabbit)	No information available
1,2-dichloropropane	1947mg/kg(Rat)	10100mg/kg(Rabbit)	No information available
Hexachlorobuta-1,3-diene	82mg/kg(Rat)	100mg/kg(Rabbit)	No information available
N-hexane	25000mg/kg(Rat)	No information available	169.188mg/L(Rat)
1,2,4-trichlorobenzene	756mg/kg(Rat)	6139mg/kg(Rat)	No information available
Dibromochloromethane	370mg/kg(Rat)	No information available	No information available

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
1,1,1-trichloroethane	Category 2A	Not Listed
trans-1,3-Dichloropropene	Not Listed	Not Listed
(Z)-1,3-Dichloro-1-propene	Not Listed	Not Listed
Trichloroethylene	Category 1	Category K
1,2-dichloropropane	Category 1	Not Listed
bromodichloromethane	Category 2B	Category R
1,1,2-trichloroethane	Category 3	Not Listed
Tetrachloroethylene	Category 2A	Category R
Dibromochloromethane	Category 3	Not Listed
Bromoform	Category 3	Not Listed
1,1,2,2-tetrachloroethane	Category 2B	Not Listed
1,3-dichlorobenzene	Category 3	Not Listed

1,4-dichlorobenzene	Category 2B	Category R
1,2-dichlorobenzene	Category 3	Not Listed
1,2,4-trichlorobenzene	Not Listed	Not Listed
1,2,3-trichlorobenzene	Not Listed	Not Listed
Hexachlorobuta-1,3-diene	Category 3	Not Listed
1,2-dibromoethane	Category 2A(Remark 1)	Category R
1,2-dichloroethane	Category 2B	Category R
Carbon tetrachloride	Category 2B	Category R
Chloroform	Category 2B	Category R
N-hexane	Not Listed	Not Listed

Remark 1: Overall evaluation upgraded to Group 2A with supporting evidence from other relevant data

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
1,1,1-trichloroethane	No information available
trans-1,3-Dichloropropene	No information available
(Z)-1,3-Dichloro-1-propene	No information available
Trichloroethylene	No information available
1,2-dichloropropane	No information available
bromodichloromethane	No information available
1,1,2-trichloroethane	No information available
Tetrachloroethylene	No information available
Dibromochloromethane	No information available
Bromoform	No information available
1,1,2,2-tetrachloroethane	No information available
1,3-dichlorobenzene	No information available
1,4-dichlorobenzene	No information available
1,2-dichlorobenzene	No information available
1,2,4-trichlorobenzene	No information available
1,2,3-trichlorobenzene	No information available
Hexachlorobuta-1,3-diene	No information available
1,2-dibromoethane	No information available
1,2-dichloroethane	No information available
Carbon tetrachloride	No information available
Chloroform	No information available
N-hexane	No information available

11.2.2 Other Information

Other Information	See Section 11.1

12 Ecological information

12.1 Toxicity

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Chloroform	LC_{50} : > 110mg/L (96h)(Fish)	No information available	No information available
1,1,2,2-tetrachloroethane	LC_{50} : 20.4mg/L (96h)(Fish)	EC_{50} : 24mg/L (48h)(Crustaceans)	ErC_{50} : 89mg/L (96h)(Algae)
Trichloroethylene	LC_{50} : 42.4mg/L (96h)(Fish)	EC_{50} : 11mg/L (48h)(Crustaceans)	ErC_{50} : 77mg/L (72h)(Algae)
(Z)-1,3-Dichloro-1-propene	LC_{50} : 1.6mg/L (96h)(Fish)	No information available	No information available
bromodichloromethane	LC_{50} : 28mg/L (96h)(Fish)	EC_{50} : 29mg/L (48h)(Crustaceans)	ErC_{50} : 12mg/L (72h)(Algae)
1,4-dichlorobenzene	LC_{50} : 2.2mg/L (96h)(Fish)	EC_{50} : 2.5mg/L (48h)(Crustaceans)	ErC_{50} : 5.4mg/L (72h)(Algae)
1,1,1-trichloroethane	LC_{50} : 42.3mg/L (96h)(Fish)	EC_{50} : 11.2mg/L (48h)(Crustaceans)	No information available
1,1,2-trichloroethane	LC_{50} : 40mg/L (96h)(Fish)	EC_{50} : 79.5mg/L (48h)(Crustaceans)	ErC_{50} : 200mg/L (96h)(Algae)
1,2-dibromoethane	LC_{50} : 1.13mg/L (96h)(Fish)	No information available	No information available
1,2-dichlorobenzene	LC_{50} : 6.66mg/L (96h)(Fish)	EC_{50} : 0.7mg/L (48h)(Crustaceans)	ErC_{50} : 71.1mg/L (96h)(Algae)
Carbon tetrachloride	LC_{50} : 7.6mg/L (96h)(Fish)	EC_{50} : 8.1mg/L (48h)(Crustaceans)	ErC_{50} : 0.46mg/L (72h)(Algae)
1,3-dichlorobenzene	LC_{50} : 7.8mg/L (96h)(Fish)	EC_{50} : 2.5mg/L (48h)(Crustaceans)	ErC_{50} : 126mg/L (96h)(Algae)
Tetrachloroethylene	LC_{50} : 14mg/L (96h)(Fish)	EC_{50} : 1.3mg/L (48h)(Crustaceans)	ErC_{50} : 27mg/L (72h)(Algae)
Bromoform	LC_{50} : 29mg/L (96h)(Fish)	EC_{50} : 46mg/L (48h)(Crustaceans)	ErC_{50} : 13mg/L (72h)(Algae)
1,2,3-trichlorobenzene	LC_{50} : 3.2mg/L (96h)(Fish)	EC_{50} : 0.46mg/L (48h)(Crustaceans)	ErC_{50} : 0.9mg/L (96h)(Algae)
1,2-dichloroethane	LC_{50} :136mg/L (96h)(Fish)	EC_{50} : 99mg/L (48h)(Crustaceans)	ErC_{50} : 230mg/L (72h)(Algae)
1,2-dichloropropane	LC_{50} :160mg/L (96h)(Fish)	EC_{50} : 30mg/L (48h)(Crustaceans)	ErC_{50} : 83mg/L (96h)(Algae)
Hexachlorobuta-1,3-diene	LC_{50} : 0.32mg/L (96h)(Fish)	No information available	No information available
N-hexane	LC_{50} : 57.8mg/L (96h)(Fish)	No information available	No information available
1,2,4-trichlorobenzene	LC_{50} : 2.4mg/L (96h)(Fish)	EC_{50} : 2.05mg/L (48h)(Crustaceans)	ErC_{50} : 5.7mg/L (72h)(Algae)
Dibromochloromethane	LC_{50} : 79mg/L (96h)(Fish)	EC_{50} : 27mg/L (48h)(Crustaceans)	ErC_{50} : 9.6mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
1,2-dichloroethane	NOEC : 41mg/L(Fish)	NOEC : 1.0mg/L(Crustaceans)	NOEC : 55mg/L(Algae)
Trichloroethylene	NOEC : 5.76mg/L(Fish)	NOEC : 2.1mg/L(Crustaceans)	NOEC : 45mg/L(Algae)
1,2,3-trichlorobenzene	NOEC : 0.32mg/L(Fish)	NOEC : 0.17mg/L(Crustaceans)	NOEC : 0.23mg/L(Algae)
1,2-dichloropropane	NOEC : 6~11mg/L(Fish)	NOEC : 0.96mg/L(Crustaceans)	NOEC : 11mg/L(Algae)
bromodichloromethane	NOEC : 0.78mg/L(Fish)	NOEC : 2.2mg/L(Crustaceans)	NOEC : 0.80mg/L(Algae)
1,4-dichlorobenzene	NOEC : 0.9mg/L(Fish)	NOEC : 0.10mg/L(Crustaceans)	NOEC : 0.83mg/L(Algae)
1,2-dichlorobenzene	NOEC : 0.8mg/L(Fish)	NOEC : <0.10mg/L(Crustaceans)	NOEC : 2.6mg/L(Algae)
1,2,4-trichlorobenzene	NOEC : 0.04mg/L(Fish)	NOEC : 0.10mg/L(Crustaceans)	NOEC : 2.2mg/L(Algae)
Dibromochloromethane	NOEC : 3.2mg/L(Fish)	NOEC : 0.063mg/L(Crustaceans)	NOEC : 4.5mg/L(Algae)
Carbon tetrachloride	No information available	NOEC : 0.49mg/L(Crustaceans)	NOEC : 0.12mg/L(Algae)
1,3-dichlorobenzene	NOEC : 0.7mg/L(Fish)	NOEC : <0.10mg/L(Crustaceans)	NOEC : 2.2mg/L(Algae)
Tetrachloroethylene	NOEC : 1.9mg/L(Fish)	NOEC : 0.023mg/L(Crustaceans)	NOEC : 9.1mg/L(Algae)

12.2 Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
1,1,1-trichloroethane	High(Half-life = 546 days)	High(Half-life = 2247.04 days)
1,1,2-trichloroethane	High(Half-life = 730 days)	Medium(Half-life = 81.5 days)
Tetrachloroethylene	High(Half-life = 720 days)	Medium(Half-life = 160.13 days)
Bromoform	High(Half-life = 360 days)	High(Half-life = 541.21 days)
1,3-dichlorobenzene	High(Half-life = 360 days)	Low(Half-life = 37.13 days)
1,2-dichlorobenzene	High(Half-life = 360 days)	Medium(Half-life = 63.67 days)
1,2,4-trichlorobenzene	High(Half-life = 360 days)	Low(Half-life = 53.5 days)
1,2,3-trichlorobenzene	High	High
N-hexane	Low	Low

12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
1,1,1-trichloroethane	Low	BCF=9
trans-1,3-Dichloropropene	Low	Log Kow=2.03
1,1,2-trichloroethane	Low	BCF=17

Tetrachloroethylene	Low	BCF=77.1
Bromoform	Low	BCF=21
1,3-dichlorobenzene	High	BCF=6918
1,2-dichlorobenzene	Low	BCF=260
1,2,4-trichlorobenzene	High	BCF=4420
1,2,3-trichlorobenzene	Medium	Log Kow=4.05
N-hexane	Medium	Log Kow=3.9

12.4 Mobility in soil

Component	log Koc	Remark
1,1,1-trichloroethane	0.34	20 ℃
trans-1,3-Dichloropropene	0.279	
Trichloroethylene	2.15	
1,2-dichloropropane	1.67	
1,1,2-trichloroethane	1.831	
Tetrachloroethylene	2.15	20 ℃
Bromoform	2.08	
1,3-dichlorobenzene	2.5	
1,2-dichlorobenzene	2.65	20 ℃
1,2,4-trichlorobenzene	2.856	
1,2,3-trichlorobenzene	2.87	
Carbon tetrachloride	2.06	20 ℃
Chloroform	2.27	20 ℃
N-hexane	≥2.37 - ≤3.16	20 ℃， pH=7.0

12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
1,1,1-trichloroethane	Insufficient information, temporarily unable to evaluate
trans-1,3-Dichloropropene	Insufficient information, temporarily unable to evaluate
(Z)-1,3-Dichloro-1-propene	Insufficient information, temporarily unable to evaluate
Trichloroethylene	Not PBT/vPvB
1,2-dichloropropane	Not PBT/vPvB
bromodichloromethane	Insufficient information, temporarily unable to evaluate
1,1,2-trichloroethane	Insufficient information, temporarily unable to evaluate
Tetrachloroethylene	Not PBT/vPvB
Dibromochloromethane	Insufficient information, temporarily unable to evaluate
Bromoform	Not PBT/vPvB
1,1,2,2-tetrachloroethane	Insufficient information, temporarily unable to evaluate

1,3-dichlorobenzene	Not PBT/vPvB
1,4-dichlorobenzene	Not PBT/vPvB
1,2-dichlorobenzene	Not PBT/vPvB
1,2,4-trichlorobenzene	Insufficient information, temporarily unable to evaluate
1,2,3-trichlorobenzene	Insufficient information, temporarily unable to evaluate
Hexachlorobuta-1,3-diene	Insufficient information, temporarily unable to evaluate
1,2-dibromoethane	Not PBT/vPvB
1,2-dichloroethane	Not PBT/vPvB
Carbon tetrachloride	Not PBT/vPvB
Chloroform	Not PBT/vPvB
N-hexane	Not PBT/vPvB

12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
1,1,1-trichloroethane	No information available
trans-1,3-Dichloropropene	No information available
(Z)-1,3-Dichloro-1-propene	No information available
Trichloroethylene	No information available
1,2-dichloropropane	No information available
bromodichloromethane	No information available
1,1,2-trichloroethane	No information available
Tetrachloroethylene	No information available
Dibromochloromethane	No information available
Bromoform	No information available
1,1,2,2-tetrachloroethane	No information available
1,3-dichlorobenzene	No information available
1,4-dichlorobenzene	No information available
1,2-dichlorobenzene	No information available
1,2,4-trichlorobenzene	No information available
1,2,3-trichlorobenzene	No information available
Hexachlorobuta-1,3-diene	No information available
1,2-dibromoethane	No information available
1,2-dichloroethane	No information available
Carbon tetrachloride	No information available
Chloroform	No information available
N-hexane	No information available

12.7 Other adverse effects

	No information available

13 Disposal considerations

13.1 Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	

IMDG-CODE

14.1 UN number	1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
14.3 Transport hazard class	3
14.4 Packing group	Ⅱ
14.5 Environmental hazards (Yes or no)	No

IATA-DGR

14.1 UN number	1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
14.3 Transport hazard class	3
14.4 Packing group	Ⅱ
14.5 Environmental hazards (Yes or no)	No

UN-ADR

14.1 UN number	1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
14.3 Transport hazard class	3
14.4 Packing group	Ⅱ
14.5 Environmental hazards (Yes or no)	No

Special precautions for user

	Shipment of the goods vehicle exhaust pipe must be equipped with fire retardant devices, prohibit using mechanical equipment and tools of which easy to produce sparks. Transit should be anti-exposure, anti-rain, anti-high temperature. Transportation used tank (tank) cars should be grounded chain, tank can be installed to reduce the partition hole static electricity shocks. Strictly prohibited shipping or transportation with oxidants, acids, food and food additives etc. When bulk transport, Prohibit the use of cement or wooden boats. Transport vehicles

	should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.

Maritime transport in bulk according to IMO instruments

◆ Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available

◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available

◆ Transport in bulk in accordance with the IGC Code

	Not Available

15 Regulatory information

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

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
1,1,1-trichloroethane	√	√	√	√	√	√	√	√	√	√	√	√	√
trans-1,3-Dichloropropene	√	×	√	×	×	×	√	×	√	×	×	√	√
(Z)-1,3-Dichloro-1-propene	×	√	×	×	×	×	×	×	√	×	×	√	√
Trichloroethylene	√	√	√	√	√	√	√	√	√	√	√	√	√
1,2-dichloropropane	√	√	√	√	√	√	√	√	√	√	√	√	√
bromodichloromethane	×	√	√	×	√	×	×	×	×	×	√	√	√
1,1,2-trichloroethane	√	√	√	√	√	√	√	√	√	√	√	√	√
Tetrachloroethylene	√	√	√	√	√	√	√	√	√	√	√	√	√
Dibromochloromethane	×	√	√	×	×	×	×	×	×	×	√	√	√
Bromoform	√	√	√	√	√	√	√	√	√	√	√	√	√
1,1,2,2-tetrachloroethane	√	√	√	√	√	√	√	√	√	√	√	√	√
1,3-dichlorobenzene	√	√	√	√	√	√	√	√	√	×	√	√	√
1,4-dichlorobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
1,2-dichlorobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
1,2,4-trichlorobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
1,2,3-trichlorobenzene	√	√	√	√	√	√	√	√	√	√	×	√	√
Hexachlorobuta-1,3-diene	√	√	√	√	×	√	√	√	√	×	√	√	√
1,2-dibromoethane	√	√	√	√	√	√	√	√	√	×	√	√	√
1,2-dichloroethane	√	√	√	√	√	√	√	√	√	√	√	√	√
Carbon tetrachloride	√	√	√	√	√	√	√	√	√	√	√	√	√
Chloroform	√	√	√	√	√	√	√	√	√	√	√	√	√
N-hexane	√	√	√	√	√	√	√	√	√	√	√	√	√

【A】 China Inventory of Existing Chemical Substances(IECSC)
【B】 European Inventory of Existing Commercial Chemical Substances(EC inventory)
【C】 United States Toxic Substances Control Act Inventory(TSCA)
【D】 Canadian Domestic Substances List(DSL)
【E】 New Zealand Inventory of Chemicals(NZIoC)
【F】 Philippines Inventory of Chemicals and Chemical Substances(PICCS)
【G】 Korea Existing Chemicals Inventory(KECL)
【H】 Australian. Inventory of Industrial Chemical (AIICS)
【I】 Japan Inventory of Existing & New Chemical Substances(ENCS)
【J】 Thailand Existing Chemicals Inventory(TECI)
【K】 Mexico National Inventory of Chemical Substances (INSQ)
【L】 Russia Inventory of Existing Substances (DRAFT)
【M】 Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
1,1,1-trichloroethane	√	×	×
trans-1,3-Dichloropropene	×	×	×
(Z)-1,3-Dichloro-1-propene	×	×	×
Trichloroethylene	×	×	×
1,2-dichloropropane	×	×	×
bromodichloromethane	×	×	×
1,1,2-trichloroethane	×	×	×
Tetrachloroethylene	×	×	×
Dibromochloromethane	×	×	×
Bromoform	×	×	×
1,1,2,2-tetrachloroethane	×	×	×
1,3-dichlorobenzene	×	×	×
1,4-dichlorobenzene	×	×	×
1,2-dichlorobenzene	×	×	×
1,2,4-trichlorobenzene	×	×	×
1,2,3-trichlorobenzene	×	×	×
Hexachlorobuta-1,3-diene	×	√	×
1,2-dibromoethane	×	×	√
1,2-dichloroethane	×	×	√
Carbon tetrachloride	√	×	×
Chloroform	×	×	×
N-hexane	×	×	×

【A】 The Montreal Protocol on Substances that Deplete the Ozone Layer
【B】 Stockholm Convention on Persistent Organic Pollutants (POPs)
【C】 Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade

European chemical inventory

Component	A	B	C	D	E	F	G	H	I
1,1,1-trichloroethane	×	×	×	√	√	×	×	×	×
trans-1,3-Dichloropropene	×	×	×	×	√	×	×	×	×
(Z)-1,3-Dichloro-1-propene	×	×	×	√	√	×	×	×	×
Trichloroethylene	√	√	√	√	√	×	×	×	×
1,2-dichloropropane	×	×	√	√	√	×	×	×	×
bromodichloromethane	×	×	×	√	×	×	×	×	×
1,1,2-trichloroethane	×	×	√	√	√	×	×	×	×
Tetrachloroethylene	×	×	×	√	√	√	×	×	×
Dibromochloromethane	×	×	×	√	×	×	×	×	×
Bromoform	×	×	×	√	√	×	×	×	×
1,1,2,2-tetrachloroethane	×	×	√	√	×	×	×	×	×
1,3-dichlorobenzene	×	×	×	√	√	×	×	×	×
1,4-dichlorobenzene	×	×	√	√	√	×	×	×	×
1,2-dichlorobenzene	×	×	×	√	√	√	×	×	×
1,2,4-trichlorobenzene	×	×	√	√	√	×	√	×	×
1,2,3-trichlorobenzene	×	×	×	√	√	×	×	×	×
Hexachlorobuta-1,3-diene	×	×	×	√	×	×	√	×	√
1,2-dibromoethane	×	×	√	√	√	×	×	×	×
1,2-dichloroethane	√	√	√	√	√	×	√	×	×
Carbon tetrachloride	×	×	×	√	√	√	×	×	×
Chloroform	×	×	√	√	√	×	√	×	×
N-hexane	×	×	×	√	√	√	×	×	×

[A] Candidate list of Substances of Very High Concern for authorization under EU REACH regulation
[B] Substances requiring authorisation under EU REACH regulation
[C] Substances restricted under EU REACH
[D] Pre-registered substances under EU REACH
[E] Registered substances under EU REACH
[F] Substance Evaluation – CoRAP under EU REACH
[G] List of priority substances under EU water policy （Directive 2455/2001/EC）
[H] Substances subject to POPs Regulation
[I] Substances proposed as POPs

Note:
"√" Indicates that the substance included in the regulations.
"×" No data or not included in the regulations.

German water hazard class(WGK)

Component	WGK	Remark

1,1,1-trichloroethane	WGK 3	
(Z)-1,3-Dichloro-1-propene	WGK 3	
Trichloroethylene	WGK 3	
1,2-dichloropropane	WGK 3	
1,1,2-trichloroethane	WGK 3	
Tetrachloroethylene	WGK 3	
Bromoform	WGK 3	
1,1,2,2-tetrachloroethane	WGK 3	
1,3-dichlorobenzene	WGK 2	
1,4-dichlorobenzene	WGK 2	
1,2-dichlorobenzene	WGK 2	
1,2,4-trichlorobenzene	WGK 3	
1,2,3-trichlorobenzene	WGK 3	
Hexachlorobuta-1,3-diene	WGK 3	
1,2-dibromoethane	WGK 3	
1,2-dichloroethane	WGK 3	
Carbon tetrachloride	WGK 3	
Chloroform	WGK 3	
N-hexane	WGK 3	

【WGK 1】 slightly hazardous to water
【WGK 2】 obviously hazardous to water
【WGK 3】 highly hazardous to water
【nwg】 non-hazardous to water
【awg】 hazardous to water in general

German technical instructions on air quality control(TA LUFT)

Component	TA LUFT	Remark
1,1,1-trichloroethane	Chapter 5.2.5 Organic Substances. Class II. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow: 0,50 kg/hr or Mass conc.: 0,10 g/m³	
(Z)-1,3-Dichloro-1-propene	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
Trichloroethylene	Chapter 5.2.7.1.1 Carcinogenic substances. Class III. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:2,5 g/hr	

	or Mass conc.:1 mg/m³	
1,2-dichloropropane	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
bromodichloromethane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
1,1,2-trichloroethane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
Tetrachloroethylene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
Dibromochloromethane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
Bromoform	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
1,1,2,2-tetrachloroethane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
1,4-dichlorobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
1,2,3-trichlorobenzene	Chapter 5.2.5 Organic Substances, dust,including fine dust.To be treated as overall dust. The emissions of dust in the exhaust gas are not allowed to exceed the following values:Mass flow:0,20 kg/hr or Mass conc.:20 mg/m³ The mass per unit volume of 0,15 g/m³ in exhaust gas is not allowed to be exceeded also on observance or lower deviation of a mass flow of 0,20 kg/h.For emission sources that exceed the mass flow rate of 0.40 kg/h, the mass concentration in	

	waste gas the mass concentration must not exceed 10 mg/m³.	
Hexachlorobuta-1,3-diene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
1,2-dibromoethane	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
1,2-dichloroethane	Chapter 5.2.7.1.1 Carcinogenic substances. Class III. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:2,5 g/hr or Mass conc.:1 mg/m³	
Carbon tetrachloride	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	
Chloroform	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
N-hexane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m³	

German technical rules for hazardous substances(TRGS)

Component	TRGS	Remark
1,1,1-trichloroethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
(Z)-1,3-Dichloro-1-propene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS 724	
Trichloroethylene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS	

	510	
1,2-dichloropropane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS 724	
bromodichloromethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
1,1,2-trichloroethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
Tetrachloroethylene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
Dibromochloromethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
Bromoform	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
1,1,2,2-tetrachloroethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 402|TRGS 500|TRGS 509|TRGS 510	
1,3-dichlorobenzene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
1,4-dichlorobenzene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
1,2-dichlorobenzene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
1,2,4-trichlorobenzene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
1,2,3-trichlorobenzene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
Hexachlorobuta-1,3-diene	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
1,2-dibromoethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510	
1,2-dichloroethane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS	

	724	
Carbon tetrachloride	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510	
Chloroform	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510	
N-hexane	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS 724	

15.2 Chemical safety assessment

	No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16 Other information

Information on revision

Creation Date	2026/01/26
Revision Date	-
Reason for revision	-

Reference

[1] IPCS: The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home.
[2] IARC, website: http://www.iarc.fr/.
[3] OECD: The Global Portal to Information on Chemical Substances, website: https://www.echemportal.org/echemportal/.
[4] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple.
[5] NLM: ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp.
[6] EPA: Integrated Risk Information System, website: http://cfpub.epa.gov/iris/.
[7] U.S. Department of Transportation: ERG, website: http://www.phmsa.dot.gov/hazmat/library/erg.
[8] Germany GESTIS-database on hazard substance, website: http://gestis-en.itrust.de/.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC_{50}	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD_{50}	Lethal Dose 50%	NTP	National Toxicology Program
EC_{50}	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC_X	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P_{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present

state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.