Safety Data Sheet

22 Mix TVOC in methanol

Version：V2.0.0.1
Report No.：BWQ8967-2016-MSDS-US
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*Prepared according to American OSHA HCS-2024 (29 CFR 1910.1200)

1 Identification

Product identifier

Product Name	22 Mix TVOC in methanol
Cat No.	BWQ8967-2016
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable

Recommended use of the product and restrictions on use

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

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

Emergency phone number

Emergency phone number	010-58103678

2 Hazard(s) identification

Hazard classification according to 29 CFR 1910.1200

Flammable liquids	Category 2
Acute Toxicity - Oral	Category 3
Acute Toxicity - Dermal	Category 3
Acute Toxicity - Inhalation	Category 3
Specific target organ toxicity - single exposure	Category 1

Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

Precautionary statements

Prevention

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 with adequate ventilation.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P321	Specific treatment (see related instructions on the label).
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P361+P364	Take off immediately all 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.

Other hazards

	Not applicable.

Hazard description

◆ Physical and chemical hazards

	Highly flammable liquids, its vapor and air mixture can form explosive mixture.

◆ Health hazards

Inhaled	Cough. Dizziness. Headache. Nausea. Weakness. Visual disturbance.
Ingestion	Abdominal pain. Shortness of breath. Vomiting. Convulsions. Unconsciousness. (Further see Inhalation).
Skin Contact	MAY BE ABSORBED! Dry skin. Redness.
Eye	Redness. Pain.

◆ Environmental hazards

	Please refer to 12th chapter of SDS.

3 Composition/information on ingredients

Substance/mixture

	Mixture

Component	CAS No.	EC No.	Concentration (wt, %)
Methanol	67-56-1	200-659-6	99.78
N-hexane	110-54-3	203-777-6	0.01
Ethyl acetate	141-78-6	205-500-4	0.01
Chloroform	67-66-3	200-663-8	0.01
Benzene	71-43-2	200-753-7	0.01
Carbon tetrachloride	56-23-5	200-262-8	0.01
Cyclohexane	110-82-7	203-806-2	0.01
Heptane	142-82-5	205-563-8	0.01
Trichloroethylene	79-01-6	201-167-4	0.01
Methylcyclohexane	108-87-2	203-624-3	0.01
Toluene	108-88-3	203-625-9	0.01
Octane	111-65-9	203-892-1	0.01
Tetrachloroethylene	127-18-4	204-825-9	0.01
N-butyl acetate	123-86-4	204-658-1	0.01
Chlorobenzene	108-90-7	203-628-5	0.01
Ethylbenzene	100-41-4	202-849-4	0.01
m-xylene	108-38-3	203-576-3	0.01
p-xylene	106-42-3	203-396-5	0.01
Styrene	100-42-5	202-851-5	0.01

o-xylene	95-47-6	202-422-2	0.01
Nonane	111-84-2	203-913-4	0.01
1,4-dichlorobenzene	106-46-7	203-400-5	0.01
Hexadecane	544-76-3	208-878-9	0.01

4 First-aid measures

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 skin with plenty of water or shower. Refer for medical attention.
Ingestion	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). 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.

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.

Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

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.

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.

Special protective equipment and precautions for fire-fighters

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

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.

Environmental precautions

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

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	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
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.

7 Handling and storage

Precautions for safe handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.

6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

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.

8 Exposure controls/personal protection

Control parameters

◆Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
Methanol	Japan - JSOH(2024–2025)	200	260	-	-
	Permissible exposure standards for workers in the workplace	200	262	250	327.5
	Australia	200	262	250	328
	Canada - Ontario	200	-	250	-
	European Union	200	260	-	-
	New Zealand	200	262	250	328
N-hexane	Japan - JSOH(2024–2025)	40	140	-	-
	Permissible exposure standards for workers in the workplace	50	176	75	220
	Australia	20	72	-	-
	Canada - Ontario	50	-	-	-
	European Union	20	72	-	-
	New Zealand	20	72	-	-
Ethyl acetate	Japan - JSOH(2024–2025)	200	720	-	-
	Permissible exposure standards for workers in the workplace	400	1440	500	1440
	Australia	200	720	400	1440

	Canada - Ontario	400	-	-	-
	European Union	200	734	400	1468
	New Zealand	200	720	-	-
Chloroform	Japan - JSOH(2024–2025)	3	14.7	-	-
	Permissible exposure standards for workers in the workplace	-	-	-	-
	Australia	2	10	-	-
	Canada - Ontario	10	-	-	-
	European Union	2	10	-	-
	New Zealand	2	9.9	-	-
Benzene	Japan - JSOH(2024–2025)	1(individual excess lifetime risk of cancer 10^-3)	-	-	-
	Permissible exposure standards for workers in the workplace	1	3.2	2	6.4
	Australia	1	3.2	-	-
	Canada - Ontario	0.5	-	2.5	-
	European Union	0.2	0.66	-	-
	New Zealand	0.05	0.16	-	-
Carbon tetrachloride	Japan - JSOH(2024–2025)	5	31	-	-
	Permissible exposure standards for workers in the workplace	2	13	4	19.5
	Australia	0.1	0.63	-	-
	Canada - Ontario	2	-	3	-
	European Union	1	6.4	5	32
	New Zealand	0.1	0.63	-	-
Cyclohexane	Japan - JSOH(2024–2025)	150	520	-	-
	Permissible exposure standards for workers in the workplace	300	1030	375	1030
	Australia	100	350	300	1050
	Canada - Ontario	100	-	-	-

	European Union	200	700	-	-
	New Zealand	100	350	300	1050
Heptane	Japan - JSOH(2024–2025)	200	820	-	-
	Permissible exposure standards for workers in the workplace	400	1640	500	1640
	Australia	400	1640	500	2050
	Canada - Ontario	400	-	500	-
	European Union	500	2085	-	-
	New Zealand	400	1640	500	2050
Trichloroethylene	Japan - JSOH(2024–2025)	25	135	-	-
	Permissible exposure standards for workers in the workplace	50	269	75	336.25
	Australia	10	54	40	216
	Canada - Ontario	10	-	25	-
	European Union	10	54.7	30	164.1
	New Zealand	10	55	25	135
Methylcyclohexane	Japan - JSOH(2024–2025)	400	1600	-	-
	Permissible exposure standards for workers in the workplace	400	1610	500	1610
	Australia	400	1610	-	-
	Canada - Ontario	400	-	-	-
	New Zealand	400	1610	-	-
	USA - ACGIH	100	-	-	-
Toluene	Japan - JSOH(2024–2025)	50	188	-	-
	Permissible exposure standards for workers in the workplace	50	188	75	235
	Australia	50	191	150	574
	Canada - Ontario	20	-	-	-
	European Union	50	192	100	384
	New Zealand	20	75	100	377

Octane	Japan - JSOH(2024–2025)	300	1400	-	-
	Permissible exposure standards for workers in the workplace	300	1400	375	1400
	Australia	300	1400	375	1750
	Canada - Ontario	300	-	-	-
	New Zealand	300	1400	375	1750
	USA - ACGIH	300	-	-	-
Tetrachloroethylene	Permissible exposure standards for workers in the workplace	50	339	75	423.75
	Australia	50	340	150	1020
	Canada - Ontario	25	-	100	-
	European Union	20	138	40	275
	New Zealand	20	136	40	271
	USA - ACGIH	25	-	100	-
N-butyl acetate	Japan - JSOH(2024–2025)	100	475	-	-
	Permissible exposure standards for workers in the workplace	150	712	187.5	890
	Australia	150	713	200	950
	Canada - Ontario	150	-	200	-
	European Union	50	241	150	723
	New Zealand	150	713	200	950
Chlorobenzene	Japan - JSOH(2024–2025)	10	46	-	-
	Permissible exposure standards for workers in the workplace	75	345	112.5	431.25
	Australia	10	46	-	-
	Canada - Ontario	10	-	-	-
	European Union	5	23	15	70
	New Zealand	10	46	-	-
Ethylbenzene	Japan - JSOH(2024–2025)	20	87	-	-
	Permissible exposure	100	434	125	542.5

	standards for workers in the workplace				
	Australia	100	434	125	543
	Canada - Ontario	20	-	-	-
	European Union	100	442	200	884
	New Zealand	20	88	40	176
m-xylene	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	Australia	80	350	150	655
	Canada - Ontario	100	-	150	-
	European Union	50	221	100	442
	New Zealand	50	217	-	-
	USA - ACGIH	20	-	-	-
p-xylene	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	Australia	80	350	150	655
	Canada - Ontario	100	-	150	-
	European Union	50	221	100	442
	New Zealand	50	217	-	-
	USA - ACGIH	20	-	-	-
Styrene	Japan - JSOH(2024–2025)	10	42.6	-	-
	Permissible exposure standards for workers in the workplace	50	213	75	266.25
	Australia	50	213	100	426
	Canada - Ontario	35	-	100	-
	New Zealand	20	85	40	170
	USA - ACGIH	10	-	20	-
o-xylene	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	Australia	80	350	150	655
	Canada - Ontario	100	-	150	-
	European Union	50	221	100	442
	New Zealand	50	217	-	-

	USA - ACGIH	20	-	-	-
Nonane	Japan - JSOH(2024–2025)	200	1050	-	-
	Permissible exposure standards for workers in the workplace	200	1050	250	1050
	Australia	200	1050	-	-
	Canada - Ontario	200	-	-	-
	New Zealand	200	1050	-	-
	USA - ACGIH	200	-	-	-
1,4-dichlorobenzene	Japan - JSOH(2024–2025)	10	60	-	-
	Permissible exposure standards for workers in the workplace	75	450	112.5	562.5
	Australia	25	150	50	300
	Canada - Ontario	10	-	-	-
	European Union	2	12	10	60
	New Zealand	2	12	10	60

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.

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 dust proof gas mask.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Appearance (physical state, color, etc.)	Colorless to light yellow liquid
Odor	No information available
Odor threshold	No information available

pH	No information available
Melting point/freezing point(°C)	-98 (Methanol)
Initial boiling point and boiling range(°C)	65 (Methanol)
Flash point(Closed cup,°C)	9 (Methanol)
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit : 50 (Methanol); Lower limit : 6 (Methanol)
Vapor pressure	12.9 kPa (20°C,Methanol)
Vapor density(Air = 1)	1.1 (Methanol)
Relative density(Water=1)	0.79 (20°C,Methanol)
Solubility	Miscible with water (Methanol)
n-octanol/water partition coefficient	-0.74 (Methanol)
Auto-ignition temperature(°C)	440 (Methanol)
Decomposition temperature(°C)	No information available
Kinematic viscosity	0.544 mPa (25°C,Methanol)

10 Stability and reactivity

Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	In contact with oxidants causes severe reactions, and may cause a fire or explosion. In contact with an open flame may cause a fire or explosion. In contact with metal alkoxides may cause a fire. Reactions with metals form metal organic coumpounds. In contact with halides may cause an active reaction. In contact with metals, oxidants, triethyl aluminium, amines, boranes and their derivatives may cause an explosion severely.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Oxidants, alkali metals, alkaline earth metals and aluminum. Oxidantss and halogen. Metal alkyl oxide, metal hydride, inorganic peroxide, nitrate and halogens oxyacid salts. Metal, oxidantss and alkali. Halides, oxidants and halogen. Borane class and its derivatives, amines, metals, oxidants, triethyl aluminium, calcium and ethylene.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Acute toxicity

Component	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
Carbon tetrachloride	2350mg/kg(Rat)	> 20000mg/kg(Rabbit)	50.330mg/L(Rat)
Methylcyclohexane	> 3200mg/kg(Rat)	No information available	No information available
Nonane	No information available	No information available	16.787mg/L(Rat)

Ethylbenzene	3500mg/kg(Rat)	15400mg/kg(Rabbit)	No information available
Chloroform	695mg/kg(Rat)	> 20000mg/kg(Rabbit)	47.702mg/L(Rat)
N-butyl acetate	10768mg/kg(Rat)	> 17600mg/kg(Rabbit)	No information available
p-xylene	5000mg/kg(Rat)	No information available	19.758mg/L(Rat)
Toluene	636mg/kg(Rat)	12200mg/kg(Rabbit)	49mg/L(Rat)
N-hexane	25000mg/kg(Rat)	No information available	169.188mg/L(Rat)
Cyclohexane	12705mg/kg(Rat)	No information available	No information available
Chlorobenzene	1110mg/kg(Rat)	No information available	No information available
Benzene	930mg/kg(Rat)	> 8260mg/kg(Rabbit)	No information available
Heptane	No information available	No information available	103mg/L(Rat)
Octane	No information available	No information available	118mg/L(Rat)
m-xylene	5000mg/kg(Rat)	12200mg/kg(Rabbit)	No information available
Styrene	2650mg/kg(Rat)	No information available	12mg/L(Rat)
Ethyl acetate	5620mg/kg(Rat)	> 18000mg/kg(Rabbit)	No information available
1,4-dichlorobenzene	500~5000mg/kg(Rat)	> 2000mg/kg(Rabbit)	No information available
Methanol	5628mg/kg(Rat)	15800mg/kg(Rabbit)	83.867mg/L(Rat)
Trichloroethylene	4920mg/kg(Rat)	> 20000mg/kg(Rabbit)	45.409mg/L(Mouse)
Tetrachloroethylene	2629mg/kg(Rat)	No information available	35.269mg/L(Mouse)

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP	OSHA Carcinogen List
Methanol	Not Listed	Not Listed	Not Listed
N-hexane	Not Listed	Not Listed	Not Listed
Ethyl acetate	Not Listed	Not Listed	Not Listed
Chloroform	Category 2B	Category R	Not Listed
Benzene	Category 1	Category K	Listed
Carbon tetrachloride	Category 2B	Category R	Not Listed
Cyclohexane	Not Listed	Not Listed	Not Listed
Heptane	Not Listed	Not Listed	Not Listed
Trichloroethylene	Category 1	Category K	Not Listed
Methylcyclohexane	Not Listed	Not Listed	Not Listed
Toluene	Category 3	Not Listed	Not Listed
Octane	Not Listed	Not Listed	Not Listed
Tetrachloroethylene	Category 2A	Category R	Not Listed
N-butyl acetate	Not Listed	Not Listed	Not Listed
Chlorobenzene	Not Listed	Not Listed	Not Listed
Ethylbenzene	Category 2B	Not Listed	Not Listed

m-xylene	Not Listed	Not Listed	Not Listed
p-xylene	Not Listed	Not Listed	Not Listed
Styrene	Category 2A	Category R	Not Listed
o-xylene	Not Listed	Not Listed	Not Listed
Nonane	Not Listed	Not Listed	Not Listed
1,4-dichlorobenzene	Category 2B	Category R	Not Listed
Hexadecane	Not Listed	Not Listed	Not Listed

Others

22 Mix TVOC in methanol	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
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	Based on available data, the classification criteria are not met
STOT-single exposure	Causes damage to organs(Category 1)
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Carbon tetrachloride	LC_{50} : 7.6mg/L (96h)(Fish)	EC_{50} : 8.1mg/L (48h)(Crustaceans)	ErC_{50} : 0.46mg/L (72h)(Algae)
Methylcyclohexane	LC_{50} : 2.1mg/L (96h)(Fish)	EC_{50} : 0.33mg/L (48h)(Crustaceans)	ErC_{50} : 0.34mg/L (72h)(Algae)
Nonane	LC_{50} : 0.368mg/L (96h)(Fish)	No information available	No information available
Ethylbenzene	LC_{50} : 4.2mg/L (96h)(Fish)	EC_{50} : 4.75mg/L (48h)(Crustaceans)	ErC_{50} : 3.6mg/L (96h)(Algae)
Chloroform	LC_{50} : > 110mg/L (96h)(Fish)	No information available	No information available
p-xylene	LC_{50} : 5.5mg/L (96h)(Fish)	EC_{50} : 6.9mg/L (48h)(Crustaceans)	ErC_{50} : 9.6mg/L (72h)(Algae)
N-butyl acetate	LC_{50} : 18mg/L (96h)(Fish)	No information available	No information available
Toluene	LC_{50} : 25mg/L (96h)(Fish)	EC_{50} : 4.1mg/L (48h)(Crustaceans)	ErC_{50} : 29mg/L (72h)(Algae)
N-hexane	LC_{50} : 57.8mg/L (96h)(Fish)	No information available	No information available
Cyclohexane	LC_{50} : 4.35mg/L (96h)(Fish)	No information available	No information available
Chlorobenzene	LC_{50} : 6.6mg/L (96h)(Fish)	EC_{50} : 5.29mg/L (48h)(Crustaceans)	ErC_{50} : 202mg/L (96h)(Algae)

Benzene	LC_{50} : 21.6mg/L (96h)(Fish)	EC_{50} : 10.9mg/L (48h)(Crustaceans)	ErC_{50} : 1600mg/L (96h)(Algae)
Heptane	LC_{50} :375mg/L (96h)(Fish)	No information available	No information available
Octane	LC_{50} : 0.42mg/L (96h)(Fish)	EC_{50} : 0.18mg/L (48h)(Crustaceans)	ErC_{50} : >1.1mg/L (72h)(Algae)
m-xylene	LC_{50} : 10.6mg/L (96h)(Fish)	EC_{50} : 2.4mg/L (48h)(Crustaceans)	ErC_{50} : 8.9mg/L (72h)(Algae)
Styrene	LC_{50} : 4.02mg/L (96h)(Fish)	EC_{50} : 4.7mg/L (48h)(Crustaceans)	ErC_{50} : 0.72mg/L (96h)(Algae)
Ethyl acetate	LC_{50} :230mg/L (96h)(Fish)	No information available	ErC_{50} : 2500mg/L (96h)(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)
o-xylene	LC_{50} : 16.1mg/L (96h)(Fish)	EC_{50} : 1.1mg/L (48h)(Crustaceans)	ErC_{50} : 0.80mg/L (72h)(Algae)
Methanol	LC_{50} : 24000mg/L (96h)(Fish)	EC_{50} : 24500mg/L (48h)(Crustaceans)	No information available
Trichloroethylene	LC_{50} : 42.4mg/L (96h)(Fish)	EC_{50} : 11mg/L (48h)(Crustaceans)	ErC_{50} : 77mg/L (72h)(Algae)
Tetrachloroethylene	LC_{50} : 14mg/L (96h)(Fish)	EC_{50} : 1.3mg/L (48h)(Crustaceans)	ErC_{50} : 27mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Carbon tetrachloride	No information available	NOEC : 0.49mg/L(Crustaceans)	NOEC : 0.12mg/L(Algae)
Octane	No information available	NOEC : 0.045mg/L(Crustaceans)	NOEC : 1.1mg/L(Algae)
Methylcyclohexane	No information available	No information available	NOEC : 0.067mg/L(Algae)
m-xylene	No information available	NOEC : 0.41mg/L(Crustaceans)	NOEC : 5.3mg/L(Algae)
p-xylene	No information available	NOEC : 1.3mg/L(Crustaceans)	NOEC : 4.4mg/L(Algae)
o-xylene	No information available	NOEC : 0.63mg/L(Crustaceans)	NOEC : 0.73mg/L(Algae)
1,4-dichlorobenzene	NOEC : 0.9mg/L(Fish)	NOEC : 0.10mg/L(Crustaceans)	NOEC : 0.83mg/L(Algae)
Trichloroethylene	NOEC : 5.76mg/L(Fish)	NOEC : 2.1mg/L(Crustaceans)	NOEC : 45mg/L(Algae)
Toluene	No information available	NOEC : 1.2mg/L(Crustaceans)	NOEC : 9.1mg/L(Algae)
Tetrachloroethylene	NOEC : 1.9mg/L(Fish)	NOEC : 0.023mg/L(Crustaceans)	NOEC : 9.1mg/L(Algae)
Chlorobenzene	No information available	NOEC : 0.72mg/L(Crustaceans)	No information available

Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Methanol	Low	Low

N-hexane	Low	Low
Heptane	Low	Low
Tetrachloroethylene	High(Half-life = 720 days)	Medium(Half-life = 160.13 days)
m-xylene	High(Half-life = 360 days)	Low(Half-life = 1.08 days)
p-xylene	High(Half-life = 360 days)	Low(Half-life = 1.75 days)
o-xylene	High(Half-life = 360 days)	Low(Half-life = 1.83 days)
Nonane	Low	Low
Hexadecane	Low	Low

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Methanol	Low	BCF=10
N-hexane	Medium	Log Kow=3.9
Heptane	High	Log Kow=4.66
Tetrachloroethylene	Low	BCF=77.1
m-xylene	Low	BCF=1.37
p-xylene	Low	BCF=2.2
o-xylene	Low	BCF=219
Nonane	High	Log Kow=5.65
Hexadecane	Low	Log Kow=8.199

Mobility in soil

Component	log Koc	Remark
Methanol	0.000	
N-hexane	≥2.37 - ≤3.16	20 ℃, pH=7.0
Chloroform	2.27	20 ℃
Benzene	2.13	20 ℃
Carbon tetrachloride	2.06	20 ℃
Cyclohexane	2.89	20 ℃
Heptane	≥2.59 - ≤3.16	20 ℃, pH=7.0
Trichloroethylene	2.15	
Toluene	2.31	20 ℃
Octane	≥3.16 - ≤3.956	20 ℃, pH=7.0
Tetrachloroethylene	2.15	20 ℃
Chlorobenzene	2.369	MCI method
Ethylbenzene	3.12	20 ℃
m-xylene	2.73	20 ℃
p-xylene	2.73	20 ℃

Styrene	2.55	
o-xylene	2.73	20 ℃
Nonane	≥2.70 - ≤4.35	20 ℃， pH=7.0
Hexadecane	≥6.3779 - ≤7.5362	20 ℃， pH=7

13 Disposal considerations

Disposal considerations

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

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ
Marine pollutant (Yes or no)	No

IATA-DGR

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ

UN-ADR

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ

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

Others

Precautions for transport	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.

15 Regulatory information

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Methanol	√	√	√	√	√	√	√	√	√	√	√	√	√
N-hexane	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethyl acetate	√	√	√	√	√	√	√	√	√	√	√	√	√
Chloroform	√	√	√	√	√	√	√	√	√	√	√	√	√
Benzene	√	√	√	√	√	√	√	√	√	√	√	√	√
Carbon tetrachloride	√	√	√	√	√	√	√	√	√	√	√	√	√
Cyclohexane	√	√	√	√	√	√	√	√	√	√	√	√	√
Heptane	√	√	√	√	√	√	√	√	√	√	√	√	√
Trichloroethylene	√	√	√	√	√	√	√	√	√	√	√	√	√
Methylcyclohexane	√	√	√	√	√	√	√	√	√	√	√	√	√
Toluene	√	√	√	√	√	√	√	√	√	√	√	√	√
Octane	√	√	√	√	√	√	√	√	√	√	√	√	√
Tetrachloroethylene	√	√	√	√	√	√	√	√	√	√	√	√	√
N-butyl acetate	√	√	√	√	√	√	√	√	√	√	√	√	√
Chlorobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethylbenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
m-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√

p-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√
Styrene	√	√	√	√	√	√	√	√	√	√	√	√	√
o-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√
Nonane	√	√	√	√	√	√	√	√	√	√	√	√	√
1,4-dichlorobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
Hexadecane	√	√	√	√	√	√	√	√	√	×	×	√	√

【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
Methanol	×	×	×
N-hexane	×	×	×
Ethyl acetate	×	×	×
Chloroform	×	×	×
Benzene	×	×	×
Carbon tetrachloride	√	×	×
Cyclohexane	×	×	×
Heptane	×	×	×
Trichloroethylene	×	×	×
Methylcyclohexane	×	×	×
Toluene	×	×	×
Octane	×	×	×
Tetrachloroethylene	×	×	×
N-butyl acetate	×	×	×
Chlorobenzene	×	×	×
Ethylbenzene	×	×	×
m-xylene	×	×	×
p-xylene	×	×	×
Styrene	×	×	×
o-xylene	×	×	×

Nonane	×	×	×
1,4-dichlorobenzene	×	×	×
Hexadecane	×	×	×

【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

US chemical inventory

Component	A	B	C	D	E	F	G	H
Methanol	√	×	√	√	√	√	√	√
N-hexane	√	×	√	√	√	√	√	√
Ethyl acetate	×	×	√	√	√	√	√	×
Chloroform	√	√	√	√	√	√	√	√
Benzene	√	×	√	√	√	√	√	√
Carbon tetrachloride	√	×	√	√	√	√	√	√
Cyclohexane	×	×	√	√	√	√	√	×
Heptane	×	×	×	√	√	√	√	×
Trichloroethylene	√	×	√	√	√	√	√	√
Methylcyclohexane	×	×	×	√	√	√	√	×
Toluene	√	×	√	√	√	√	√	√
Octane	×	×	×	√	√	√	√	×
Tetrachloroethylene	√	×	√	√	√	√	√	√
N-butyl acetate	×	×	√	√	√	√	√	×
Chlorobenzene	√	×	√	√	√	√	√	×
Ethylbenzene	√	×	√	√	√	√	√	√
m-xylene	√	×	√	√	√	√	√	×
p-xylene	√	×	√	√	√	√	√	×
Styrene	√	×	√	√	√	√	√	√
o-xylene	√	×	√	√	√	√	√	×
Nonane	×	×	×	√	√	√	√	×
1,4-dichlorobenzene	√	×	√	√	√	√	√	√
Hexadecane	×	×	×	×	×	×	×	×

[A] US Clean Air Act (CAA)- Section 112, Hazardous Air Pollutants
[B] US SARA 302- Extremely Hazardous Substance List
[C] US CERCLA- Hazardous Substances List
[D] US Massachusetts Right-to-Know Substance List
[E] US New Jersey Right to Know Hazardous Substance List
[F] US Pennsylvania Right to Know Hazardous Substance List
[G] US New York City Right-to-Know Hazardous Substance List
[H] US California Proposition 65 List

Note:

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

16 Other information

Information on revision

Creation Date	2025/10/28
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	HCS	Hazard Communication Standard

Disclaimer

This Safety Data Sheet (SDS) was prepared according to OSHA HCS-2024. 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.