

## Safety Data Sheet

# 21 VOCs Mix in acetonitrile

Version : V2.0.0.1

Report No. : BWQ8555-2016-MSDS-US

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Revision Date : -



\*Prepared according to American OSHA HCS-2024 (29 CFR 1910.1200)

## 1 Identification

### Product identifier

Product Name	21 VOCs Mix in acetonitrile
Cat No.	BWQ8555-2016
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
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## 2 Hazard(s) identification

### Hazard classification according to 29 CFR 1910.1200

Flammable liquids	Category 2
Acute Toxicity - Oral	Category 4
Acute Toxicity - Dermal	Category 4
Serious eye damage/irritation	Category 2
Acute Toxicity - Inhalation	Category 4
Reproductive Toxicity	Category 1B

### Label elements

Hazard pictograms	
Signal word	<b>Danger</b>

### **| Hazard statements**

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H332	Harmful if inhaled
H360	May damage the unborn child

### **| Precautionary statements**

#### ◆ Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been 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.
P261	Avoid breathing 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 information on this label and safety data sheet).
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.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Small fire: dry chemical, CO <sub>2</sub> 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].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### ◆ Storage

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

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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| Other hazards

	Not applicable.
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| Hazard description

◆ Physical and chemical hazards

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

Inhaled	Sore throat. Weakness. Abdominal pain. Laboured breathing. Convulsions. Unconsciousness. Vomiting. Symptoms may be delayed.
Ingestion	(Further see Inhalation).
Skin Contact	Redness.
Eye	Redness. Pain.

◆ Environmental hazards

	Please refer to 12th chapter of SDS.
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**3 Composition/information on ingredients**

| Substance/mixture

	Mixture
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Component	CAS No.	EC No.	Concentration (wt, %)
<b>Acetonitrile</b>	75-05-8	200-835-2	94.624
<b>Acetone</b>	67-64-1	200-662-2	0.256
<b>Ethanol</b>	64-17-5	200-578-6	0.256
<b>Propan-2-ol</b>	67-63-0	200-661-7	0.256
<b>Triethylamine</b>	121-44-8	204-469-4	0.256
<b>2-methylpropan-1-ol</b>	78-83-1	201-148-0	0.256
<b>Butan-1-ol</b>	71-36-3	200-751-6	0.256
<b>1-Methoxy-2-propanol</b>	107-98-2	203-539-1	0.256
<b>(2-methoxymethylmethoxy)propanol</b>	34590-94-8	252-104-2	0.256
<b>N-butyl acetate</b>	123-86-4	204-658-1	0.256
<b>2-dimethylaminoethanol</b>	108-01-0	203-542-8	0.256
<b>5-methylhexan-2-one</b>	110-12-3	203-737-8	0.256
<b>1-butoxypropan-2-ol</b>	5131-66-8	225-878-4	0.256
<b>2-butoxyethanol</b>	111-76-2	203-905-0	0.256
<b>1,2-Propanediol</b>	57-55-6	200-338-0	0.256

<b>Ethane-1,2-diol</b>	107-21-1	203-473-3	0.256
<b>1-methyl-2-pyrrolidone</b>	872-50-4	212-828-1	0.256
<b>1-(2-butoxy-1-methylethoxy)propan-2-ol</b>	29911-28-2	249-951-5	0.256
<b>2-(2-butoxyethoxy)ethanol</b>	112-34-5	203-961-6	0.256
<b>1-phenoxypropan-2-ol</b>	770-35-4	212-222-7	0.256
<b>2,2'-oxydiethanol</b>	111-46-6	203-872-2	0.256
<b>2-Phenoxyethanol</b>	122-99-6	204-589-7	0.256

## 4 First-aid measures

### Description of first aid measures

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
<b>Eye contact</b>	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Skin contact</b>	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
<b>Ingestion</b>	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Give plenty of water to drink. Refer for medical attention.
<b>Inhalation</b>	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
<b>Protecting of first-aiders</b>	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.
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### Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

## 5 Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	Small fire: dry chemical, CO <sub>2</sub> 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.
<b>Unsuitable extinguishing media</b>	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	May emit poisonous fumes on fire.
6	Development of hazardous combustion gases or vapor possible in the event of fire.

7 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 Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- 6 Do not touch or walk through spilled material.
- 7 Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- 8 Use personal protective equipment, do not breathe gas/mist/vapour/spray.
- 9 Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
- 10 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 Do not touch or cross spills.
- 9 It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-virus suits.
- 10 Spray water disperses the vapor and dilutes the liquid spill.
- 11 Do not touch broken containers and spills before putting on appropriate protective clothing.
- 12 Cut off the source of the leak as much as possible.
- 13 Keep leaks in a ventilated place.
- 14 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by

	bunding.
15	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
16	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
17	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.

## 8 Exposure controls/personal protection

### Control parameters

#### ◆ Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Acetonitrile	Permissible exposure standards for workers in the workplace	40	67	60	100.5
	Australia	40	67	60	101
	Canada - Ontario	20	-	-	-
	European Union	40	70	-	-
	New Zealand	40	67	60	101
	USA - ACGIH	20	-	-	-
Acetone	Japan - JSOH(2024-2025)	200	475	-	-
	Permissible exposure standards for workers in the workplace	200	475	250	593.75
	Australia	500	1185	1000	2375

	Canada - Ontario	250	-	500	-
	European Union	500	1210	-	-
	New Zealand	500	1185	1000	2375
<b>Ethanol</b>	Permissible exposure standards for workers in the workplace	1000	1880	1000	1880
	Australia	1000	1880	-	-
	Canada - Ontario	-	-	1000	-
	New Zealand	1000	1880	-	-
	USA - ACGIH	-	-	1000	-
	USA - NIOSH	1000	1900	-	-
	Japan - JSOH(2024-2025)	-	-	-	-
<b>Propan-2-ol</b>	Permissible exposure standards for workers in the workplace	400	983	500	1228.75
	Australia	400	983	500	1230
	Canada - Ontario	200	-	400	-
	New Zealand	400	983	500	1230
	USA - ACGIH	200	-	400	-
<b>Triethylamine</b>	Permissible exposure standards for workers in the workplace	10	41	15	61.5
	Australia	2	8	4	17
	Canada - Ontario	0.5	-	1	-
	European Union	2	8.4	3	12.6
	New Zealand	3	12	5	20
	USA - ACGIH	0.5	-	1	1
	Japan - JSOH(2024-2025)	50	150	-	-
<b>2-methylpropan-1-ol</b>	Permissible exposure standards for workers in the workplace	50	152	75	190
	Canada - Ontario	50	-	-	-
	New Zealand	50	152	-	-
	USA - ACGIH	50	-	-	-
	USA - NIOSH	50	150	-	-
<b>Butan-1-ol</b>	Japan -	-	-	-	-

	JSOH(2024–2025)				
	Permissible exposure standards for workers in the workplace	100	303	125	378.75
	Australia	-	-	50	152
	Canada - Ontario	20	-	-	-
	New Zealand	-	-	50	150
	USA - ACGIH	20	-	-	-
<b>1-Methoxy-2-propanol</b>	Permissible exposure standards for workers in the workplace	100	369	125	461.25
	Australia	100	369	150	553
	Canada - Ontario	100	-	150	-
	European Union	100	375	150	568
	New Zealand	100	369	150	553
	USA - ACGIH	50	-	100	-
<b>(2-methoxymethylethoxy) propanol</b>	Permissible exposure standards for workers in the workplace	100	606	125	757.5
	Australia	50	308	-	-
	Canada - Ontario	100	-	150	-
	European Union	50	308	-	-
	New Zealand	100	606	150	909
	USA - ACGIH	50	-	-	-
<b>N-butyl acetate</b>	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
<b>2-dimethylaminoethanol</b>	Canada - Ontario	3	11	6	22
	New Zealand	2	7.4	6	22
	Denmark	10(provisional )	-	-	-
	Latvia	-	5	-	-

	United Kingdom	2	7.4	6	22
<b>5-methylhexan-2-one</b>	Permissible exposure standards for workers in the workplace	50	234	75	292.5
	Australia	50	234	-	-
	Canada - Ontario	50	-	-	-
	European Union	20	95	-	-
	New Zealand	50	234	-	-
	USA - ACGIH	20	-	50	-
<b>2-butoxyethanol</b>	Japan - JSOH(2024-2025)	-	-	-	-
	Permissible exposure standards for workers in the workplace	25	121	37.5	151.25
	Australia	20	96.9	50	242
	Canada - Ontario	20	-	-	-
	European Union	20	98	50	246
	New Zealand	25	121	-	-
<b>1,2-Propanediol</b>	Australia	-	10	-	-
	Canada - Ontario	-	10(particulate s)	-	-
	New Zealand	150	474	-	-
	Ireland	150(vapour and particulates)	470(vapour and particulates)	-	-
	Latvia	-	7	-	-
	Norway	25	79	-	-
<b>Ethane-1,2-diol</b>	Permissible exposure standards for workers in the workplace	-	10(mist)	-	15(mist)
	Permissible exposure standards for workers in the workplace	-	-	-	-
	Australia	20(vapour)	52(vapour)	40(vapour)	104(vapour)
	Canada - Ontario	-	-	-	100
	European Union	20	52	40	104
	New Zealand	-	-	50	127
<b>1-methyl-2-pyrrolidone</b>	Japan - JSOH(2024-2025)	1	4	-	-

	Australia	25	103	75	309
	Canada - Ontario	-	400	-	-
	European Union	10	40	20	80
	New Zealand	25	103	75	309
	Austria	3.6	14.4	7.2	28.8
<b>2-(2-butoxyethoxy)ethanol</b>	European Union	10	67.5	15	101.2
	USA - ACGIH	10(inhalable fraction and vapor)	-	-	-
	Austria	10	67.5	15	101.2
	Belgium	10	67.5	15	101.2
	Denmark	10	68	20	136
	Finland	10	68	-	-
<b>2,2'-oxydiethanol</b>	Australia	23	100	-	-
	New Zealand	10	44	40	176
	Austria	10	44	40	176
	Denmark	2.5	11	5	22
	Germany (AGS)	10	44	40	176
	Germany (DFG)	10	44	40	176
<b>2-Phenoxyethanol</b>	Canada - Ontario	25	141	-	-
	Austria	20	110	20	110
	Finland	20	110	50	290
	Germany (AGS)	1	5.7	1	5.7
	Germany (DFG)	1	5.7	1	5.7
	Poland	-	230	-	-

### 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 respiratory protective equipment.
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.)	clear or clear yellow liquid
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-46 ( Acetonitrile )
Initial boiling point and boiling range(°C)	82 ( Acetonitrile )
Flash point(Closed cup, °C)	2 ( Acetonitrile )
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit : 17 ( Acetonitrile ) ; Lower limit : 3 ( Acetonitrile )
Vapor pressure	9.9kPa ( 25°C,Acetonitrile )
Vapor density(Air = 1)	1.4 ( Acetonitrile )
Relative density(Water=1)	0.8 ( Acetonitrile )
Solubility	1000000mg/L ( 25 °C,Acetonitrile )
n-octanol/water partition coefficient	-0.3 ( Acetonitrile )
Auto-ignition temperature(°C)	524 ( Acetonitrile )
Decomposition temperature(°C)	No information available
Kinematic viscosity	No information available

## 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 N-halogen compounds may cause a potensive explosive hazardous. In contact with oxidants may cause a fire or an explosion. In contact with oxidants causes severe reactions, and may cause a fire or explosion. In contact with oxidants, anhydrides, metals, metal oxides / KMnO4 metal salts, nitro-compounds may cause a fire or explosion. In contact with metal alkoxides may cause a fire.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	N - halogenated compounds, sulfuric acid and strong oxidants. Oxidants, chloroform and bromoformOxidants, alkali metals, alkaline earth metals and aluminum. Oxidants, halogen, anhydrides, acids, metals, metal oxides, potassium permanganate, nitro-compounds and metal salts. Metal alkyl oxide, metal hydride, inorganic peroxide, nitrate and halogens oxyacid salts.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 Toxicological information

### Acute toxicity

Component	LD <sub>50</sub> (oral)	LD <sub>50</sub> (dermal)	LC <sub>50</sub> (inhalation,4h)
<b>Propan-2-ol</b>	5045mg/kg(Rat)	12800mg/kg(Rabbit)	No information available
<b>1-(2-butoxy-1-methylethoxy)propan-2-ol</b>	1480mg/kg(Rat)	5350mg/kg(Rabbit)	No information available
<b>1,2-Propanediol</b>	20000mg/kg(Rat)	20800mg/kg(Rabbit)	No information available
<b>1-butoxypropan-2-ol</b>	5010mg/kg(Rat)	3100mg/kg(Rabbit)	No information available
<b>(2-methoxymethylethoxy)propanol</b>	5140mg/kg(Rat)	9510mg/kg(Rabbit)	No information available
<b>2,2'-oxydiethanol</b>	12565mg/kg(Rat)	11890mg/kg(Rabbit)	No information available
<b>2-methylpropan-1-ol</b>	2460mg/kg(Rat)	3400mg/kg(Rabbit)	No information available
<b>1-phenoxypropan-2-ol</b>	2830mg/kg(Rat)	> 2000mg/kg(Rabbit)	No information available
<b>2-butoxyethanol</b>	470mg/kg(Rat)	> 2000mg/kg(Rat)	2.174mg/L(Rat)
<b>1-methyl-2-pyrrolidone</b>	3914mg/kg(Rat)	8000mg/kg(Rabbit)	No information available
<b>Triethylamine</b>	460mg/kg(Rat)	415mg/kg(Rabbit)	No information available
<b>Acetonitrile</b>	2460mg/kg(Rat)	> 2000mg/kg(Rabbit)	4.748mg/L(Rabbit)
<b>N-butyl acetate</b>	10768mg/kg(Rat)	> 17600mg/kg(Rabbit)	No information available
<b>Butan-1-ol</b>	790mg/kg(Rat)	3400mg/kg(Rabbit)	24.252mg/L(Rat)
<b>Acetone</b>	5800mg/kg(Rat)	> 15800mg/kg(Rabbit)	76mg/L(Rat)
<b>2-dimethylaminoethanol</b>	2000mg/kg(Rat)	1220mg/kg(Rabbit)	5.983mg/L(Rat)
<b>Ethane-1,2-diol</b>	4700mg/kg(Rat)	10600mg/kg(Rabbit)	No information available
<b>2-Phenoxyethanol</b>	1260mg/kg(Rat)	5510mg/kg(Rabbit)	No information available
<b>Ethanol</b>	7060mg/kg(Rat)	No information available	39mg/L(Mouse)
<b>1-Methoxy-2-propanol</b>	11700mg/kg(Mouse)	13000mg/kg(Rabbit)	No information available
<b>2-(2-butoxyethoxy)ethanol</b>	5660mg/kg(Rat)	2700mg/kg(Rabbit)	No information available
<b>5-methylhexan-2-one</b>	3200mg/kg(Rat)	8140mg/kg(Rabbit)	No information available

### Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP	OSHA Carcinogen List
<b>Acetonitrile</b>	Not Listed	Not Listed	Not Listed
<b>Acetone</b>	Not Listed	Not Listed	Not Listed
<b>Ethanol</b>	Category 1(Remark 1)	Not Listed	Not Listed
<b>Propan-2-ol</b>	Category 3	Not Listed	Not Listed
<b>Triethylamine</b>	Not Listed	Not Listed	Not Listed
<b>2-methylpropan-1-ol</b>	Not Listed	Not Listed	Not Listed
<b>Butan-1-ol</b>	Not Listed	Not Listed	Not Listed
<b>1-Methoxy-2-propanol</b>	Not Listed	Not Listed	Not Listed
<b>(2-methoxymethylethoxy)propanol</b>	Not Listed	Not Listed	Not Listed

<b>N-butyl acetate</b>	Not Listed	Not Listed	Not Listed
<b>2-dimethylaminoethanol</b>	Not Listed	Not Listed	Not Listed
<b>5-methylhexan-2-one</b>	Not Listed	Not Listed	Not Listed
<b>1-butoxypropan-2-ol</b>	Not Listed	Not Listed	Not Listed
<b>2-butoxyethanol</b>	Category 3	Not Listed	Not Listed
<b>1,2-Propanediol</b>	Not Listed	Not Listed	Not Listed
<b>Ethane-1,2-diol</b>	Not Listed	Not Listed	Not Listed
<b>1-methyl-2-pyrrolidone</b>	Not Listed	Not Listed	Not Listed
<b>1-(2-butoxy-1-methylethoxy)propan-2-ol</b>	Not Listed	Not Listed	Not Listed
<b>2-(2-butoxyethoxy)ethanol</b>	Not Listed	Not Listed	Not Listed
<b>1-phenoxypropan-2-ol</b>	Not Listed	Not Listed	Not Listed
<b>2,2'-oxydiethanol</b>	Not Listed	Not Listed	Not Listed
<b>2-Phenoxyethanol</b>	Not Listed	Not Listed	Not Listed

Remark 1: for alcoholic beverages only

## 1 Others

### 21 VOCs Mix in acetonitrile

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met
<b>Serious eye damage/irritation</b>	Causes serious eye irritation(Category 2)
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met
<b>Reproductive toxicity</b>	May damage the unborn child(Category 1B)
<b>STOT-single exposure</b>	Based on available data, the classification criteria are not met
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met

## 12 Ecological information

### 1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
<b>Propan-2-ol</b>	LC <sub>50</sub> : 9640mg/L (96h)(Fish)	EC <sub>50</sub> : >1000mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1000mg/L (72h)(Algae)
<b>1,2-Propanediol</b>	LC <sub>50</sub> : > 100mg/L (96h)(Fish)	EC <sub>50</sub> : >1000mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1000mg/L (72h)(Algae)
<b>1-butoxypropan-2-ol</b>	LC <sub>50</sub> : 560mg/L (96h)(Fish)	No information available	No information available
<b>2,2'-oxydiethanol</b>	LC <sub>50</sub> : 75200mg/L (96h)(Fish)	No information available	No information available
<b>2-methylpropan-1-ol</b>	LC <sub>50</sub> : 1510mg/L (96h)(Fish)	EC <sub>50</sub> : 1200mg/L (48h)(Crustaceans)	No information available
<b>2-butoxyethanol</b>	LC <sub>50</sub> : 1370mg/L (96h)(Fish)	EC <sub>50</sub> : >1000mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1000mg/L (72h)(Algae)

<b>Triethylamine</b>	LC <sub>50</sub> : 24mg/L (96h)(Fish)	EC <sub>50</sub> : 34mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 8.0mg/L (72h)(Algae)
<b>Acetonitrile</b>	LC <sub>50</sub> : > 100mg/L (96h)(Fish)	EC <sub>50</sub> : > 1000mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >700mg/L (72h)(Algae)
<b>N-butyl acetate</b>	LC <sub>50</sub> : 18mg/L (96h)(Fish)	No information available	No information available
<b>Butan-1-ol</b>	LC <sub>50</sub> : >100mg/L (96h)(Fish)	EC <sub>50</sub> : >1000mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1000mg/L (72h)(Algae)
<b>Acetone</b>	LC <sub>50</sub> : 5540mg/L (96h)(Fish)	EC <sub>50</sub> : 18500mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 7200mg/L (96h)(Algae)
<b>2-dimethylaminoethanol</b>	LC <sub>50</sub> : 146.63mg/L (96h)(Fish)	EC <sub>50</sub> : 98.37mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 66.08mg/L (72h)(Algae)
<b>Ethane-1,2-diol</b>	LC <sub>50</sub> : >100mg/L (96h)(Fish)	EC <sub>50</sub> : >1100mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1000mg/L (72h)(Algae)
<b>2-Phenoxyethanol</b>	LC <sub>50</sub> : 344mg/L (96h)(Fish)	No information available	No information available
<b>Ethanol</b>	LC <sub>50</sub> : 11200mg/L (96h)(Fish)	EC <sub>50</sub> : 9950mg/L (48h)(Crustaceans)	No information available
<b>1-Methoxy-2-propanol</b>	LC <sub>50</sub> : 6812mg/L (96h)(Fish)	No information available	No information available
<b>2-(2-butoxyethoxy)ethanol</b>	LC <sub>50</sub> : 1300mg/L (96h)(Fish)	No information available	No information available
<b>5-methylhexan-2-one</b>	LC <sub>50</sub> : 159mg/L (96h)(Fish)	EC <sub>50</sub> : > 100mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : > 100mg/L (72h)(Algae)

### Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
<b>Propan-2-ol</b>	NOEC : > 100mg/L(Fish)	NOEC : >100mg/L(Crustaceans)	NOEC : 1000mg/L(Algae)
<b>Triethylamine</b>	No information available	NOEC : 11mg/L(Crustaceans)	NOEC : 1.1mg/L(Algae)
<b>1,2-Propanediol</b>	NOEC : >100mg/L(Fish)	NOEC : 1000mg/L(Crustaceans)	NOEC : 1000mg/L(Algae)
<b>Acetonitrile</b>	NOEC : 102mg/L(Fish)	NOEC : >960mg/L(Crustaceans)	NOEC : 700mg/L(Algae)
<b>Butan-1-ol</b>	NOEC : 46mg/L(Fish)	NOEC : 4.1mg/L(Crustaceans)	NOEC : 180mg/L(Algae)
<b>2-butoxyethanol</b>	No information available	NOEC : >100mg/L(Crustaceans)	NOEC : 130mg/L(Algae)
<b>Ethane-1,2-diol</b>	No information available	NOEC : 100mg/L(Crustaceans)	NOEC : 1000mg/L(Algae)

### Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
<b>Ethanol</b>	Low(Half-life = 2.17 days)	Low(Half-life = 5.08 days)
<b>Butan-1-ol</b>	Low(Half-life = 54 days)	Low(Half-life = 3.65 days)
<b>1-Methoxy-2-propanol</b>	Low(Half-life = 56 days)	Low(Half-life = 1.7 days)
<b>(2-methoxymethylmethoxy)propanol</b>	High	High
<b>1,2-Propanediol</b>	Low	Low

<b>Ethane-1,2-diol</b>	Low(Half-life = 24 days)	Low(Half-life = 3.46 days)
<b>1-methyl-2-pyrrolidone</b>	Low	Low
<b>1-(2-butoxy-1-methylethoxy)propan-2-ol</b>	High	High
<b>2-(2-butoxyethoxy)ethanol</b>	Low	Low
<b>1-phenoxypropan-2-ol</b>	Low	Low
<b>2,2'-oxydiethanol</b>	Low	Low
<b>2-Phenoxyethanol</b>	Low	Low

### | Bioaccumulative potential

Component	Bioaccumulative potential	Comments
<b>Ethanol</b>	Low	Log Kow=-0.31
<b>Butan-1-ol</b>	Low	BCF=64
<b>1-Methoxy-2-propanol</b>	Low	BCF=2
<b>(2-methoxymethylethoxy)propanol</b>	Low	BCF=100
<b>1,2-Propanediol</b>	Low	BCF=1
<b>Ethane-1,2-diol</b>	Low	BCF=200
<b>1-methyl-2-pyrrolidone</b>	Low	BCF=16
<b>1-(2-butoxy-1-methylethoxy)propan-2-ol</b>	Low	Log Kow=1.5
<b>2-(2-butoxyethoxy)ethanol</b>	Low	BCF=46
<b>1-phenoxypropan-2-ol</b>	Low	Log Kow=1.61
<b>2,2'-oxydiethanol</b>	Low	BCF=180
<b>2-Phenoxyethanol</b>	Low	Log Kow=1.2

### | Mobility in soil

Component	log Koc	Remark
<b>Acetonitrile</b>	0.653	
<b>Ethanol</b>	0	
<b>Propan-2-ol</b>	0.54	20 °C
<b>Triethylamine</b>	2.03	20 °C
<b>Butan-1-ol</b>	0.54	20 °C
<b>1-Methoxy-2-propanol</b>	0.000	
<b>(2-methoxymethylethoxy)propanol</b>	1.000	
<b>2-dimethylaminoethanol</b>	0.09	20 °C
<b>5-methylhexan-2-one</b>	1.36	
<b>1,2-Propanediol</b>	0.46	20 °C
<b>Ethane-1,2-diol</b>	0.000	

1-methyl-2-pyrrolidone	1.321	
1-(2-butoxy-1-methylethoxy)propan-2-ol	1.000	
2-(2-butoxyethoxy)ethanol	1.000	
1-phenoxypropan-2-ol	0.19	20 °C
2,2'-oxydiethanol	0.000	
2-Phenoxyethanol	1.61	20 °C

## 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	 
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### IMDG-CODE

UN number	1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	6.1
Packing group	II
Marine pollutant ( Yes or no )	No

### IATA-DGR

UN number	1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	6.1
Packing group	II

### UN-ADR

UN number	1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Transport hazard class	3

Transport subsidiary hazard class	6.1
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	Transit should be anti-exposure, rain, high temperature. Strictly prohibited shipping or transportation with acids, alkalis, oxidants, food and food additives etc. 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.
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## 15 Regulatory information

### | International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Acetonitrile	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acetone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Propan-2-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Triethylamine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-methylpropan-1-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butan-1-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-Methoxy-2-propanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(2-methoxymethylethoxy) propanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N-butyl acetate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-dimethylaminoethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5-methylhexan-2-one	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-butoxypropan-2-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

2-butoxyethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1,2-Propanediol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethane-1,2-diol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-methyl-2-pyrrolidone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-(2-butoxy-1-methylethoxy)propan-2-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-(2-butoxyethoxy)ethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-phenoxypropan-2-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
2,2'-oxydiethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-Phenoxyethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- 【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(NZIocC)
- 【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
Acetonitrile	✗	✗	✗
Acetone	✗	✗	✗
Ethanol	✗	✗	✗
Propan-2-ol	✗	✗	✗
Triethylamine	✗	✗	✗
2-methylpropan-1-ol	✗	✗	✗
Butan-1-ol	✗	✗	✗
1-Methoxy-2-propanol	✗	✗	✗
(2-methoxymethylethoxy)propanol	✗	✗	✗
N-butyl acetate	✗	✗	✗
2-dimethylaminoethanol	✗	✗	✗
5-methylhexan-2-one	✗	✗	✗
1-butoxypropan-2-ol	✗	✗	✗
2-butoxyethanol	✗	✗	✗
1,2-Propanediol	✗	✗	✗
Ethane-1,2-diol	✗	✗	✗
1-methyl-2-pyrrolidone	✗	✗	✗

1-(2-butoxy-1-methylethoxy)propan-2-ol	✗	✗	✗	✗
2-(2-butoxyethoxy)ethanol	✗	✗	✗	✗
1-phenoxypropan-2-ol	✗	✗	✗	✗
2,2'-oxydiethanol	✗	✗	✗	✗
2-Phenoxyethanol	✗	✗	✗	✗

[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
Acetonitrile	✓	✗	✓	✓	✓	✓	✓	✗
Acetone	✗	✗	✓	✓	✓	✓	✓	✗
Ethanol	✗	✗	✗	✓	✓	✓	✓	✗
Propan-2-ol	✗	✗	✗	✓	✓	✓	✓	✗
Triethylamine	✓	✗	✓	✓	✓	✓	✓	✗
2-methylpropan-1-ol	✗	✗	✓	✓	✓	✓	✓	✗
Butan-1-ol	✗	✗	✓	✓	✓	✓	✓	✗
1-Methoxy-2-propanol	✗	✗	✗	✓	✓	✓	✓	✗
(2-methoxymethylethoxy)propanol	✗	✗	✗	✓	✓	✓	✓	✗
N-butyl acetate	✗	✗	✓	✓	✓	✓	✓	✗
2-dimethylaminoethanol	✗	✗	✗	✓	✓	✓	✗	✗
5-methylhexan-2-one	✗	✗	✗	✓	✓	✓	✓	✗
1-butoxypropan-2-ol	✗	✗	✗	✗	✗	✗	✗	✗
2-butoxyethanol	✗	✗	✗	✓	✓	✓	✓	✗
1,2-Propanediol	✗	✗	✗	✗	✓	✓	✗	✗
Ethane-1,2-diol	✓	✗	✓	✓	✓	✓	✓	✓
1-methyl-2-pyrrolidone	✗	✗	✗	✓	✓	✓	✗	✓
1-(2-butoxy-1-methylethoxy)propan-2-ol	✗	✗	✗	✗	✗	✗	✗	✗
2-(2-butoxyethoxy)ethanol	✗	✗	✗	✗	✗	✗	✗	✗
1-phenoxypropan-2-ol	✗	✗	✗	✗	✗	✗	✗	✗
2,2'-oxydiethanol	✗	✗	✗	✗	✗	✓	✗	✗
2-Phenoxyethanol	✗	✗	✗	✗	✗	✗	✗	✗

[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	2025/11/18
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 <sub>50</sub>	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD <sub>50</sub>	Lethal Dose 50%	NTP	National Toxicology Program
EC <sub>50</sub>	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC <sub>x</sub>	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
Pow	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.