

## Safety Data Sheet

# 23 Mix VOCs in acetonitrile

Version : V2.0.0.1

Report No. : BWQ0159-2016-MSDS-EP

Creation Date : 2026/01/12

Revision Date : -



\*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	23 Mix VOCs in acetonitrile
Cat No.	BWQ0159-2016
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
Acute Toxicity - Oral	Category 4
Acute Toxicity - Dermal	Category 4
Serious eye damage/irritation	Category 2
Acute Toxicity - Inhalation	Category 4
Germ cell mutagenicity	Category 1B

<b>Carcinogenicity</b>	Category 1A
<b>Hazardous to the aquatic environment - long-term (chronic) hazard</b>	Category 3

## 2.2 Label elements

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

## Hazard statements

<b>H225</b>	Highly flammable liquid and vapour
<b>H302</b>	Harmful if swallowed
<b>H312</b>	Harmful in contact with skin
<b>H319</b>	Causes serious eye irritation
<b>H332</b>	Harmful if inhaled
<b>H340</b>	May cause genetic defects
<b>H350</b>	May cause cancer
<b>H412</b>	Harmful to aquatic life with long lasting effects
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking

## Precautionary statements

### ◆ Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P233</b>	Keep container tightly closed.
<b>P240</b>	Ground and bond container and receiving equipment.
<b>P241</b>	Use explosion-proof [electrical/ventilating/lighting] equipment.
<b>P242</b>	Use non-sparking tools.
<b>P243</b>	Take action to prevent static discharges.
<b>P261</b>	Avoid breathing gas/mist/vapour/spray.
<b>P264</b>	Wash hands and other parts of the body (if related) thoroughly after handling.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P273</b>	Avoid release to the environment.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.

### ◆ Response

<b>P312</b>	Call a POISON CENTRE/ doctor/... if you feel unwell.
<b>P321</b>	Specific treatment (see related instructions on the label).
<b>P330</b>	Rinse mouth.
<b>P301+P312</b>	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water.

<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice/attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>P370+P378</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>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

◆ Storage

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

◆ Disposal

<b>P501</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
-------------	---

## 2.3 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Acetonitrile	Not PBT/vPvB
Acetone	Not PBT/vPvB
Propan-2-ol	Not PBT/vPvB
2-methylpropan-2-ol	Not PBT/vPvB
N-hexane	Not PBT/vPvB
Butanone	Not PBT/vPvB
Ethyl acetate	Not PBT/vPvB
Cyclohexane	Not PBT/vPvB
Benzene	Not PBT/vPvB
Butan-1-ol	Not PBT/vPvB
4-methylpentan-2-one	Not PBT/vPvB
Toluene	Not PBT/vPvB
Isobutyl acetate	Not PBT/vPvB
N-butyl acetate	Not PBT/vPvB
Ethylbenzene	Not PBT/vPvB
p-xylene	Not PBT/vPvB
m-xylene	Not PBT/vPvB
o-xylene	Not PBT/vPvB
Styrene	Not PBT/vPvB

<b>Cyclohexanone</b>	Insufficient information, temporarily unable to evaluate
<b>Mesitylene</b>	Not PBT/vPvB
<b>1,2,4-trimethylbenzene</b>	Not PBT/vPvB
<b>Butyl glycolate</b>	Not PBT/vPvB
<b>1,2,3-trimethylbenzene</b>	Insufficient information, temporarily unable to evaluate

◆ Results of endocrine disrupting properties assessment

<b>Component</b>	<b>Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]</b>
<b>Acetonitrile</b>	Insufficient information, temporarily unable to evaluate
<b>Acetone</b>	Insufficient information, temporarily unable to evaluate
<b>Propan-2-ol</b>	Insufficient information, temporarily unable to evaluate
<b>2-methylpropan-2-ol</b>	Insufficient information, temporarily unable to evaluate
<b>N-hexane</b>	Insufficient information, temporarily unable to evaluate
<b>Butanone</b>	Insufficient information, temporarily unable to evaluate
<b>Ethyl acetate</b>	Insufficient information, temporarily unable to evaluate
<b>Cyclohexane</b>	Insufficient information, temporarily unable to evaluate
<b>Benzene</b>	Insufficient information, temporarily unable to evaluate
<b>Butan-1-ol</b>	Insufficient information, temporarily unable to evaluate
<b>4-methylpentan-2-one</b>	Insufficient information, temporarily unable to evaluate
<b>Toluene</b>	Insufficient information, temporarily unable to evaluate
<b>Isobutyl acetate</b>	Insufficient information, temporarily unable to evaluate
<b>N-butyl acetate</b>	Insufficient information, temporarily unable to evaluate
<b>Ethylbenzene</b>	Insufficient information, temporarily unable to evaluate
<b>p-xylene</b>	Insufficient information, temporarily unable to evaluate
<b>m-xylene</b>	Insufficient information, temporarily unable to evaluate
<b>o-xylene</b>	Insufficient information, temporarily unable to evaluate
<b>Styrene</b>	Insufficient information, temporarily unable to evaluate
<b>Cyclohexanone</b>	Insufficient information, temporarily unable to evaluate
<b>Mesitylene</b>	Insufficient information, temporarily unable to evaluate
<b>1,2,4-trimethylbenzene</b>	Insufficient information, temporarily unable to evaluate
<b>Butyl glycolate</b>	Insufficient information, temporarily unable to evaluate
<b>1,2,3-trimethylbenzene</b>	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
<b>Acetonitrile</b> CAS : 75-05-8 EC : 200-835-2 Index No. : 608-001-00-3	94.4	Flammable liquids, Category 2, H225; Acute Toxicity - Oral, Category 4, H302; Acute Toxicity - Dermal, Category 4, H312; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 4, H332	-
<b>Acetone</b> CAS : 67-64-1 EC : 200-662-2 Index No. : 606-001-00-8	0.24	Flammable liquids, Category 2, H225; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Repeated exposure may cause skin dryness or cracking, EUH066	-
<b>Propan-2-ol</b> CAS : 67-63-0 EC : 200-661-7 Index No. : 603-117-00-0	0.24	Flammable liquids, Category 2, H225; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336	-
<b>2-methylpropan-2-ol</b> CAS : 75-65-0 EC : 200-889-7 Index No. : 603-005-00-1	0.24	Flammable liquids, Category 2, H225; 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	-
<b>N-hexane</b> CAS : 110-54-3 EC : 203-777-6 Index No. : 601-037-00-0	0.24	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	-
<b>Butanone</b> CAS : 78-93-3 EC : 201-159-0 Index No. : 606-002-00-3	0.24	Flammable liquids, Category 2, H225; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Repeated exposure may cause skin dryness or cracking, EUH066	-
<b>Ethyl acetate</b> CAS : 141-78-6 EC : 205-500-4 Index No. : 607-022-00-5	0.24	Flammable liquids, Category 2, H225; Serious eye damage/irritation, Category 2, H319; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Repeated exposure may cause skin dryness or cracking, EUH066	-
<b>Cyclohexane</b> CAS : 110-82-7 EC : 203-806-2 Index No. : 601-017-00-1	0.24	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; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-

<b>Benzene</b> CAS : 71-43-2 EC : 200-753-7 Index No. : 601-020-00-8	0.24	Flammable liquids, Category 2, H225; Aspiration hazard, Category 1, H304; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1A, H350; Specific target organ toxicity - repeated exposure, Category 1, H372	-
<b>Butan-1-ol</b> CAS : 71-36-3 EC : 200-751-6 Index No. : 603-004-00-6	0.24	Flammable liquids, Category 3, H226; Acute Toxicity - Oral, Category 4, H302; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 1, H318; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336	-
<b>4-methylpentan-2-one</b> CAS : 108-10-1 EC : 203-550-1 Index No. : 606-004-00-4	0.24	Flammable liquids, Category 2, H225; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 4, H332; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Carcinogenicity, Category 2, H351; Repeated exposure may cause skin dryness or cracking, EUH066	H332:ATE=11mg/L (Vapours)
<b>Toluene</b> CAS : 108-88-3 EC : 203-625-9 Index No. : 601-021-00-3	0.24	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 2, H373	-
<b>Isobutyl acetate</b> CAS : 110-19-0 EC : 203-745-1 Index No. : 607-026-00-7	0.24	Flammable liquids, Category 2, H225; Repeated exposure may cause skin dryness or cracking, EUH066	-
<b>N-butyl acetate</b> CAS : 123-86-4 EC : 204-658-1 Index No. : 607-025-00-1	0.24	Flammable liquids, Category 3, H226; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Repeated exposure may cause skin dryness or cracking, EUH066	-
<b>Ethylbenzene</b> CAS : 100-41-4 EC : 202-849-4 Index No. : 601-023-00-4	0.24	Flammable liquids, Category 2, H225; Aspiration hazard, Category 1, H304; Acute Toxicity - Inhalation, Category 4, H332; Specific target organ toxicity - repeated exposure, Category 2, H373	-
<b>p-xylene</b> CAS : 106-42-3 EC : 203-396-5 Index No. : 601-022-00-9	0.24	Flammable liquids, Category 3, H226; Acute Toxicity - Dermal, Category 4, H312; Skin Corrosion/Irritation, Category 2, H315; Acute Toxicity - Inhalation, Category 4, H332	-
<b>m-xylene</b> CAS : 108-38-3 EC : 203-576-3 Index No. : 601-022-00-9	0.24	Flammable liquids, Category 3, H226; Acute Toxicity - Dermal, Category 4, H312; Skin Corrosion/Irritation, Category 2, H315; Acute Toxicity - Inhalation, Category 4, H332	-
<b>o-xylene</b> CAS : 95-47-6 EC : 202-422-2 Index No. : 601-022-00-9	0.24	Flammable liquids, Category 3, H226; Acute Toxicity - Dermal, Category 4, H312; Skin Corrosion/Irritation, Category 2, H315; Acute Toxicity - Inhalation, Category 4, H332	-

<b>Styrene</b> CAS : 100-42-5 EC : 202-851-5 Index No. : 601-026-00-0	0.24	Flammable liquids, Category 3, H226; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 4, H332; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 1, H372	-
<b>Cyclohexanone</b> CAS : 108-94-1 EC : 203-631-1 Index No. : 606-010-00-7	0.24	Flammable liquids, Category 3, H226; Acute Toxicity - Inhalation, Category 4, H332	-
<b>Mesitylene</b> CAS : 108-67-8 EC : 203-604-4 Index No. : 601-025-00-5	0.24	Flammable liquids, Category 3, H226; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	H335:C ≥ 25%
<b>1,2,4-trimethylbenzene</b> CAS : 95-63-6 EC : 202-436-9 Index No. : 601-043-00-3	0.24	Flammable liquids, Category 3, H226; Skin Corrosion/Irritation, Category 2, H315; 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 - long-term (chronic) hazard, Category 2, H411	-
<b>Butyl glycolate</b> CAS : 7397-62-8 EC : 230-991-7 Index No. : -	0.24	Serious eye damage/irritation, Category 1, H318; Reproductive toxicity, Category 2, H361	-
<b>1,2,3-trimethylbenzene</b> CAS : 526-73-8 EC : 208-394-8 Index No. : -	0.24	Flammable liquids, Category 3, H226; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319	-

## 4 First-aid measures

### 4.1 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.

### 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

<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.

### 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	May emit poisonous fumes on fire.
6	Development of hazardous combustion gases or vapor possible in the event of fire.
7	May expand 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	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.

### 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	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.

#### 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/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
<b>Acetonitrile</b>	Permissible exposure standards for workers in the workplace	40	67	60	100.5
	European Union	40	70	-	-
	France	40	70	-	-
	Germany (AGS)	10	17	20	34
	Germany (DFG)	10	17	20	34
	Italy	20	35	-	-
<b>Acetone</b>	Japan - JSOH(2024-2025)	200	475	-	-
	Permissible exposure standards for workers in the workplace	200	475	250	593.75
	European Union	500	1210	-	-
	France	500	1210	1000	2420
	Germany (AGS)	500	1200	1000	2400
	Germany (DFG)	500	1200	1000	2400
	Japan - JSOH(2024-2025)	-	-	-	-
<b>Propan-2-ol</b>	Permissible exposure standards for workers in the workplace	400	983	500	1228.75
	France	-	-	400	980
	Germany (AGS)	200	500	400	1000
	Germany (DFG)	200	500	400	1000
	United Kingdom	400	999	500	1250
	Japan - JSOH(2024-2025)	-	-	-	-
	Permissible exposure standards for workers in the workplace	400	983	500	1228.75

<b>2-methylpropan-2-ol</b>	Japan - JSOH(2024–2025)	50	150	-	-
	Permissible exposure standards for workers in the workplace	100	303	125	378.75
	France	100	300	-	-
	Germany (AGS)	20	62	80	248
	Germany (DFG)	20	62	80	248
	United Kingdom	100	308	150	462
<b>N-hexane</b>	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
<b>Butanone</b>	Japan - JSOH(2024–2025)	75	221	-	-
	Permissible exposure standards for workers in the workplace	200	590	250	737.5
	European Union	200	600	300	900
	France	200	600	300	900
	Germany (AGS)	200	600	200	600
	Germany (DFG)	200	600	200	600
<b>Ethyl acetate</b>	Japan - JSOH(2024–2025)	200	720	-	-
	Permissible exposure standards for workers in the workplace	400	1440	500	1440
	European Union	200	734	400	1468
	France	200	734	400	1468
	Germany (AGS)	200	730	400	1460
	Germany (DFG)	200	750	400	1500
<b>Cyclohexane</b>	Japan - JSOH(2024–2025)	150	520	-	-

	Permissible exposure standards for workers in the workplace	300	1030	375	1030
	European Union	200	700	-	-
	France	200	700	-	-
	Germany (AGS)	200	700	800	2800
	Germany (DFG)	200	700	800	2800
<b>Benzene</b>	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
	European Union	0.2	0.66	-	-
	France	1	3.25	-	-
	Germany (AGS)	0.6	1.9	4.8	15.2
	Italy	1	3.25	-	-
<b>Butan-1-ol</b>	Japan - JSOH(2024-2025)	-	-	-	-
	Permissible exposure standards for workers in the workplace	100	303	125	378.75
	France	-	-	50	150
	Germany (AGS)	100	310	100	310
	Germany (DFG)	100	310	100	310
	United Kingdom	-	-	50	154
<b>4-methylpentan-2-one</b>	Japan - JSOH(2024-2025)	20	82	-	-
	Permissible exposure standards for workers in the workplace	50	205	75	256.25
	European Union	20	83	50	208
	France	20	83	50	208
	Germany (AGS)	20	83	40	166
	Germany (DFG)	20	83	40	166
<b>Toluene</b>	Japan - JSOH(2024-2025)	50	188	-	-
	Permissible exposure	50	188	75	235

	standards for workers in the workplace				
	European Union	50	192	100	384
	France	20	76.8	100	384
	Germany (AGS)	50	190	100	380
	Germany (DFG)	50	190	100	380
<b>Isobutyl acetate</b>	Permissible exposure standards for workers in the workplace	150	713	187.5	891.25
	European Union	50	241	150	723
	France	50	241	150	723
	Germany (AGS)	62	300	124	600
	Germany (DFG)	100	480	200	960
	Italy	50	241	150	723
<b>N-butyl acetate</b>	Japan - JSOH(2024-2025)	100	475	-	-
	Permissible exposure standards for workers in the workplace	150	712	187.5	890
	European Union	50	241	150	723
	France	50	241	150	723
	Germany (AGS)	62	300	124	600
	Germany (DFG)	100	480	200	960
<b>Ethylbenzene</b>	Japan - JSOH(2024-2025)	20	87	-	-
	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	European Union	100	442	200	884
	France	20	88.4	100	442
	Germany (AGS)	20	88	40	176
	Germany (DFG)	20	88	40	176
<b>p-xylene</b>	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	European Union	50	221	100	442
	France	50	221	100	442
	Germany (AGS)	50	220	100	440

	Germany (DFG)	50	220	100	440
	Italy	50	221	100	442
<b>m-xylene</b>	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	European Union	50	221	100	442
	France	50	221	100	442
	Germany (AGS)	50	220	100	440
	Germany (DFG)	50	220	100	440
	Italy	50	221	100	442
<b>o-xylene</b>	Permissible exposure standards for workers in the workplace	100	434	125	542.5
	European Union	50	221	100	442
	Germany (AGS)	50	220	100	440
	Germany (DFG)	50	220	100	440
	Italy	50	221	100	442
	United Kingdom	50	220	100	441
<b>Styrene</b>	Japan - JSOH(2024–2025)	10	42.6	-	-
	Permissible exposure standards for workers in the workplace	50	213	75	266.25
	France	23.3	100	46.6	200
	Germany (AGS)	20	86	40	172
	Germany (DFG)	20	86	40	172
	United Kingdom	100	430	250	1080
<b>Cyclohexanone</b>	Japan - JSOH(2024–2025)	25	100	-	-
	Permissible exposure standards for workers in the workplace	25	100	37.5	125
	European Union	10	40.8	20	81.6
	France	10	40.8	20	81.6
	Germany (AGS)	20	80	20	80
	Italy	10	40.8	20	81.6
<b>Mesitylene</b>	Japan - JSOH(2024–2025)	25	120	-	-

	European Union	20	100	-	-
	France	20	100	50	250
	Germany (AGS)	20	100	40	200
	Germany (DFG)	20	100	40	200
	Italy	20	100	-	-
<b>1,2,4-trimethylbenzene</b>	Japan - JSOH(2024–2025)	25	120	-	-
	European Union	20	100	-	-
	France	20	100	50	250
	Germany (AGS)	20	100	40	200
	Germany (DFG)	20	100	40	200
	Italy	20	100	-	-
<b>1,2,3-trimethylbenzene</b>	Japan - JSOH(2024–2025)	25	120	-	-
	European Union	20	100	-	-
	France	20	100	50	250
	Germany (AGS)	20	100	40	200
	Germany (DFG)	20	100	40	200
	Italy	20	100	-	-

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
<b>Acetone</b>	USA -ACGIH	Acetone(Urine)	25mg/L	End of shift	
<b>Propan-2-ol</b>	USA -ACGIH	Acetone(Urine)	40mg/L	End of shift at end of work week	
<b>N-hexane</b>	USA -ACGIH	2,5-Hexanedione, without hydrolysis(Urine)	0.5mg/L	End of shift	
<b>Butanone</b>	USA -ACGIH	MEK(Urine)	2mg/L	End of shift	
<b>Cyclohexane</b>	USA -ACGIH	1,2-Cyclohexanediol, with hydrolysis(Creatinine in urine)	50mg/g	End of shift at end of work week	
<b>Benzene</b>	SCOEL(EU)	benzene/blood	28 µg/L	immediately end of shift	
		phenylmercapturic acid/urine	46 µg/L creatinine	end of exposure/shift	
		S-Phenylmercapturic acid(Creatinine in urine)	25µg/g	End of shift	
		t,t-Muconic acid(Creatinine in urine)	500µg/g	End of shift	

<b>4-methylpentan-2-one</b>	USA -ACGIH	Methyl isobutyl ketone(Urine)	1mg/L	End of shift	
<b>Toluene</b>	USA -ACGIH	o-Cresol, with hydrolysis(Creatinine in urine)	0.3mg/g	End of shift	
		Toluene(Urine)	0.03mg/L	End of shift	
		Toluene(Blood)	0.02mg/L	Prior to last shift of work week	
<b>Ethylbenzene</b>	USA -ACGIH	Sum of mandelic acid and phenylglyoxylic acid(Creatinine in urine)	150mg/g	End of shift	
<b>p-xylene</b>	USA -ACGIH	Methylhippuric acids(Creatinine in urine)	0.3g/g	End of shift	
<b>m-xylene</b>	USA -ACGIH	Methylhippuric acids(Creatinine in urine)	0.3g/g	End of shift	
<b>o-xylene</b>	USA -ACGIH	Methylhippuric acids(Creatinine in urine)	0.3g/g	End of shift	
<b>Styrene</b>	USA -ACGIH	Mandelic acid plus phenylglyoxylic acid(Creatinine in urine)	150mg/g	End of shift	
		Styrene(Urine)	20µg/L	End of shift	
<b>Cyclohexanone</b>	USA -ACGIH	1,2-Cyclohexanediol, with hydrolysis(Urine )	80mg/L	End of shift at end of work week	
		Cyclohexanol, with hydrolysis(Urine )	8mg/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)
<b>Acetonitrile</b>	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
<b>Acetone</b>	Inhalation	No data available	No data available	No data available	1210 mg/m <sup>3</sup>
	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
<b>Propan-2-ol</b>	Inhalation	No data available	No data available	No data available	500 mg/m <sup>3</sup>
	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
<b>2-methylpropan-2-ol</b>	Inhalation	No data available	No data available	No data available	2.7 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
<b>N-hexane</b>	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
<b>Butanone</b>	Inhalation	No data available	No data available	No data available	600 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
<b>Ethyl acetate</b>	Inhalation	No data available	No data available	734 mg/m3	734 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
<b>Cyclohexane</b>	Inhalation	No data available	No data available	700 mg/m3	700 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
<b>Benzene</b>	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
<b>Butan-1-ol</b>	Inhalation	No data available	No data available	310 mg/m3	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
<b>4-methylpentan-2-one</b>	Inhalation	No data available	No data available	83 mg/m3	83 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
<b>Toluene</b>	Inhalation	No data available	No data available	192 mg/m3	192 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
<b>Isobutyl acetate</b>	Inhalation	No data available	No data available	300 mg/m3	300 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
<b>N-butyl acetate</b>	Inhalation	No data available	No data available	300 mg/m3	300 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
<b>Ethylbenzene</b>	Inhalation	No data available	No data available	No data available	77 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

<b>p-xylene</b>	Inhalation	No data available	No data available	221 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>
	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
<b>m-xylene</b>	Inhalation	No data available	No data available	221 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>
	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
<b>o-xylene</b>	Inhalation	No data available	No data available	221 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>
	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
<b>Styrene</b>	Inhalation	No data available	No data available	100 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
	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
<b>Cyclohexanone</b>	Inhalation	No data available	No data available	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
	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
<b>Mesitylene</b>	Inhalation	No data available	No data available	100 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
	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
<b>1,2,4-trimethylbenzene</b>	Inhalation	No data available	No data available	100 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
	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
<b>Butyl glycollate</b>	Inhalation	No data available	No data available	No data available	7.05 mg/m <sup>3</sup>
	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
<b>1,2,3-trimethylbenzene</b>	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

◆ Predicted No Effect Concentration (PNEC)

Component	A	B	C	D	E	F	G	H
<b>Acetonitrile</b>	10 mg/L	1 mg/L	32 mg/L	40.5 mg/kg sediment dw	4.05 mg/kg sediment dw	No hazard identified	2.23 mg/kg soil dw	No potential for bioaccumulation
<b>Acetone</b>	10.6 mg/L	1.06 mg/L	100 mg/L	30.4 mg/kg sediment dw	3.04 mg/kg sediment dw	No hazard identified	29.5 mg/kg soil dw	No potential for bioaccumulation
<b>Propan-2-ol</b>	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No potential for bioaccumulation

								ulation
<b>2-methylpropan-2-ol</b>	2 mg/L	200 µg/L	690 mg/L	8.04 mg/kg sediment dw	804 µg/kg sediment dw	No hazard identified	1 mg/kg soil dw	88700 g/kg food
<b>N-hexane</b>	No data available	No data available	No data available	No data available	No data available	No hazard identified	No data available	No potential for bioaccumulation
<b>Butanone</b>	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No potential for bioaccumulation
<b>Ethyl acetate</b>	240 µg/L	24 µg/L	650 mg/L	1.15 mg/kg sediment dw	115 µg/kg sediment dw	No hazard identified	148 µg/kg soil dw	200 mg/kg food
<b>Cyclohexane</b>	44.7 µg/L	4.47 µg/L	3.24 mg/L	3.6 mg/kg sediment dw	360 µg/kg sediment dw	No hazard identified	694 µg/kg soil dw	No potential for bioaccumulation
<b>Benzene</b>	80 µg/L	8 µg/L	39 mg/L	1.36 mg/kg sediment dw	136 µg/kg sediment dw	No data available	225 µg/kg soil dw	No potential for bioaccumulation
<b>Butan-1-ol</b>	82 µg/L	8.2 µg/L	2.476 g/L	324 µg/kg sediment dw	32.4 µg/kg sediment dw	No hazard identified	16.6 µg/kg soil dw	No potential for bioaccumulation
<b>4-methylpentan-2-one</b>	600 µg/L	60 µg/L	27.5 mg/L	8.27 mg/kg sediment dw	830 µg/kg sediment dw	No hazard identified	1.3 mg/kg soil dw	No potential for bioaccumulation
<b>Toluene</b>	74 - 680 µg/L	7.4 - 680 µg/L	840 - 13610 µg/L	1.78 - 16.39 mg/kg sediment dw	178 - 16390 µg/kg sediment dw	No hazard identified	313 - 2890 µg/kg soil dw	No potential for bioaccumulation
<b>Isobutyl acetate</b>	170 µg/L	17 µg/L	200 mg/L	877 µg/kg sediment dw	87.7 µg/kg sediment dw	No hazard identified	75.5 µg/kg soil dw	No potential for bioaccumulation
<b>N-butyl acetate</b>	180 µg/L	18 µg/L	35.6 mg/L	981 µg/kg sediment dw	98.1 µg/kg sediment dw	No hazard identified	90.3 µg/kg soil dw	No potential for bioaccumulation
<b>Ethylbenzene</b>	100 µg/L	10 - 100 µg/L	9.6 mg/L	13.7 mg/kg sediment dw	1.37 mg/kg sediment dw	No hazard identified	2.68 mg/kg soil dw	20 mg/kg food
<b>p-xylene</b>	44 µg/L	4.4 µg/L	1.6 mg/L	2.52 mg/kg sediment	252 µg/kg sediment	No hazard identified	852 µg/kg soil dw	No potential for

				dw	dw			bioaccumulation
<b>m-xylene</b>	44 µg/L	4.4 µg/L	1.6 mg/L	2.52 mg/kg sediment dw	252 µg/kg sediment dw	No hazard identified	852 µg/kg soil dw	No potential for bioaccumulation
<b>o-xylene</b>	8.8 - 250 µg/L	880 - 250000 ng/L	1.6 - 5 mg/L	500 - 14330 µg/kg sediment dw	50 - 14330 µg/kg sediment dw	No hazard identified	95 - 2410 µg/kg soil dw	No potential for bioaccumulation
<b>Styrene</b>	28 - 40 µg/L	14 - 40 µg/L	5 mg/L	418 - 614 µg/kg sediment dw	307 - 418 µg/kg sediment dw	No hazard identified	146 - 200 µg/kg soil dw	No potential for bioaccumulation
<b>Cyclohexanone</b>	356 µg/L	35.6 µg/L	10 mg/L	2.69 mg/kg sediment dw	269 µg/kg sediment dw	No hazard identified	328 µg/kg soil dw	No potential for bioaccumulation
<b>Mesitylene</b>	101 µg/L	101 µg/L	2.02 mg/L	7.86 mg/kg sediment dw	7.86 mg/kg sediment dw	No data available	1.34 mg/kg soil dw	No potential for bioaccumulation
<b>1,2,4-trimethylbenzene</b>	120 µg/L	120 µg/L	2.41 mg/L	13.56 mg/kg sediment dw	13.56 mg/kg sediment dw	No data available	2.34 mg/kg soil dw	No data available
<b>Butyl glycolate</b>	23 µg/L	2.3 µg/L	3.71 mg/L	93.7 µg/kg sediment dw	9.3 µg/kg sediment dw	No hazard identified	5.1 µg/kg soil dw	No potential 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.

<b>Hand protection</b>	Must wear anti static chemical protective gloves.
<b>Respiratory protection</b>	Must wear appropriate personal respiratory protective equipment.
<b>Skin and body protection</b>	Must wear anti static chemical protective clothing and anti static shoes.

### 8.2.3 Environmental exposure controls

<b>Environmental exposure controls</b>	No information available
--	--------------------------

## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Clear, colorless liquid
<b>Colour</b>	Clear, colorless liquid
<b>Odor</b>	No information available
<b>Odor threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point(°C)</b>	-46 ( Acetonitrile )
<b>Initial boiling point and boiling range(°C)</b>	82 ( Acetonitrile )
<b>Flash point(Closed cup, °C)</b>	2 ( Acetonitrile )
<b>Evaporation rate</b>	No information available
<b>Flammability</b>	No information available
<b>Upper/lower explosive limits[%d(v/v)]</b>	Upper limit : 17 ( Acetonitrile ); Lower limit : 3 ( Acetonitrile )
<b>Vapor pressure</b>	9.9kPa ( 25°C,Acetonitrile )
<b>Vapor density(Air = 1)</b>	1.4 ( Acetonitrile )
<b>Relative density(Water=1)</b>	0.8 ( Acetonitrile )
<b>Solubility</b>	1000000mg/L ( 25 °C,Acetonitrile )
<b>n-octanol/water partition coefficient</b>	-0.3 ( Acetonitrile )
<b>Auto-ignition temperature(°C)</b>	524 ( Acetonitrile )
<b>Decomposition temperature(°C)</b>	No information available
<b>Kinematic viscosity</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Particle characteristics</b>	Not applicable

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

<b>Information with regard to physical hazard classes</b>	No information available
---	--------------------------

#### 9.2.2 Other safety characteristics

<b>Other safety characteristics</b>	No information available
-------------------------------------	--------------------------

## 10 Stability and reactivity

### Stability and reactivity

<b>10.1 Reactivity</b>	Contact with incompatible substances can cause decomposition or other
------------------------	---

	chemical reactions.
<b>10.2 Chemical stability</b>	Stable under proper operation and storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	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 an open flame may cause a fire or explosion. In contact with metal alkoxides may cause a fire. In contact with halides may cause an active reaction.
<b>10.4 Conditions to avoid</b>	Incompatible materials, heat, flame and spark.
<b>10.5 Incompatible materials</b>	N - halogenated compounds, sulfuric acid and strong oxidants. Oxidants, chloroform and bromoform Oxidants, alkali metals, alkaline earth metals and aluminum. Oxidantss and halogen. Metal alkyl oxide, metal hydride, inorganic peroxide, nitrate and halogens oxyacid salts. Halides, oxidants and halogen.
<b>10.6 Hazardous decomposition products</b>	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

23 Mix VOCs 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>	Based on available data, the classification criteria are not met
<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>	May cause genetic defects(Category 1B)

### Acute toxicity

Component	LD <sub>50</sub> (oral)	LD <sub>50</sub> (dermal)	LC <sub>50</sub> (inhalation,4h)
<b>N-hexane</b>	25000mg/kg(Rat)	No information available	169.188mg/L(Rat)
<b>Benzene</b>	930mg/kg(Rat)	> 8260mg/kg(Rabbit)	No information available
<b>Propan-2-ol</b>	5045mg/kg(Rat)	12800mg/kg(Rabbit)	No information available
<b>Acetone</b>	5800mg/kg(Rat)	> 15800mg/kg(Rabbit)	76mg/L(Rat)
<b>Butanone</b>	2737mg/kg(Rat)	6480mg/kg(Rabbit)	32mg/L(Mouse)
<b>1,2,4-trimethylbenzene</b>	5000mg/kg(Rat)	No information available	18mg/L(Rat)
<b>Ethyl acetate</b>	5620mg/kg(Rat)	> 18000mg/kg(Rabbit)	No information available
<b>Butan-1-ol</b>	790mg/kg(Rat)	3400mg/kg(Rabbit)	24.252mg/L(Rat)
<b>N-butyl acetate</b>	10768mg/kg(Rat)	> 17600mg/kg(Rabbit)	No information available
<b>p-xylene</b>	5000mg/kg(Rat)	No information available	19.758mg/L(Rat)
<b>4-methylpentan-2-one</b>	2080mg/kg(Rat)	No information available	11mg/L(Rat)
<b>m-xylene</b>	5000mg/kg(Rat)	12200mg/kg(Rabbit)	No information available

<b>2-methylpropan-2-ol</b>	2743mg/kg(Rat)	> 2000mg/kg(Rabbit)	> 30.3mg/L(Rat)
<b>Cyclohexanone</b>	1530mg/kg(Rat)	947mg/kg(Rabbit)	32.111mg/L(Rat)
<b>Acetonitrile</b>	2460mg/kg(Rat)	> 2000mg/kg(Rabbit)	4.748mg/L(Rabbit)
<b>Mesitylene</b>	No information available	No information available	24mg/L(Rat)
<b>Cyclohexane</b>	12705mg/kg(Rat)	No information available	No information available
<b>Isobutyl acetate</b>	13400mg/kg(Rat)	> 17400mg/kg(Rabbit)	No information available
<b>Toluene</b>	636mg/kg(Rat)	12200mg/kg(Rabbit)	49mg/L(Rat)
<b>Ethylbenzene</b>	3500mg/kg(Rat)	15400mg/kg(Rabbit)	No information available
<b>Styrene</b>	2650mg/kg(Rat)	No information available	12mg/L(Rat)

## Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
<b>Acetonitrile</b>	Not Listed	Not Listed
<b>Acetone</b>	Not Listed	Not Listed
<b>Propan-2-ol</b>	Category 3	Not Listed
<b>2-methylpropan-2-ol</b>	Category 3	Not Listed
<b>N-hexane</b>	Not Listed	Not Listed
<b>Butanone</b>	Not Listed	Not Listed
<b>Ethyl acetate</b>	Not Listed	Not Listed
<b>Cyclohexane</b>	Not Listed	Not Listed
<b>Benzene</b>	Category 1	Category K
<b>Butan-1-ol</b>	Not Listed	Not Listed
<b>4-methylpentan-2-one</b>	Category 2B	Not Listed
<b>Toluene</b>	Category 3	Not Listed
<b>Isobutyl acetate</b>	Not Listed	Not Listed
<b>N-butyl acetate</b>	Not Listed	Not Listed
<b>Ethylbenzene</b>	Category 2B	Not Listed
<b>p-xylene</b>	Not Listed	Not Listed
<b>m-xylene</b>	Not Listed	Not Listed
<b>o-xylene</b>	Not Listed	Not Listed
<b>Styrene</b>	Category 2A	Category R
<b>Cyclohexanone</b>	Category 3	Not Listed
<b>Mesitylene</b>	Not Listed	Not Listed
<b>1,2,4-trimethylbenzene</b>	Not Listed	Not Listed
<b>Butyl glycollate</b>	Not Listed	Not Listed
<b>1,2,3-trimethylbenzene</b>	Not Listed	Not Listed

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
Acetonitrile	No information available
Acetone	No information available
Propan-2-ol	No information available
2-methylpropan-2-ol	No information available
N-hexane	No information available
Butanone	No information available
Ethyl acetate	No information available
Cyclohexane	No information available
Benzene	No information available
Butan-1-ol	No information available
4-methylpentan-2-one	No information available
Toluene	No information available
Isobutyl acetate	No information available
N-butyl acetate	No information available
Ethylbenzene	No information available
p-xylene	No information available
m-xylene	No information available
o-xylene	No information available
Styrene	No information available
Cyclohexanone	No information available
Mesitylene	No information available
1,2,4-trimethylbenzene	No information available
Butyl glycollate	No information available
1,2,3-trimethylbenzene	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
N-hexane	LC <sub>50</sub> : 57.8mg/L (96h)(Fish)	No information available	No information available
o-xylene	LC <sub>50</sub> : 16.1mg/L (96h)(Fish)	EC <sub>50</sub> : 1.1mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 0.80mg/L (72h)(Algae)

<b>Benzene</b>	LC <sub>50</sub> : 21.6mg/L (96h)(Fish)	EC <sub>50</sub> : 10.9mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 1600mg/L (96h)(Algae)
<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>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>Butanone</b>	LC <sub>50</sub> : 3220mg/L (96h)(Fish)	EC <sub>50</sub> : 5090mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >1200mg/L (72h)(Algae)
<b>Ethyl acetate</b>	LC <sub>50</sub> :230mg/L (96h)(Fish)	No information available	ErC <sub>50</sub> : 2500mg/L (96h)(Algae)
<b>1,2,4-trimethylbenzene</b>	LC <sub>50</sub> : 7.72mg/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>Butyl glycollate</b>	LC <sub>50</sub> : 23.1mg/L (96h)(Fish)	EC <sub>50</sub> : > 100mg/L (48h)(Crustaceans)	No information available
<b>N-butyl acetate</b>	LC <sub>50</sub> : 18mg/L (96h)(Fish)	No information available	No information available
<b>p-xylene</b>	LC <sub>50</sub> : 5.5mg/L (96h)(Fish)	EC <sub>50</sub> : 6.9mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 9.6mg/L (72h)(Algae)
<b>4-methylpentan-2-one</b>	LC <sub>50</sub> :179mg/L (96h)(Fish)	No information available	No information available
<b>m-xylene</b>	LC <sub>50</sub> : 10.6mg/L (96h)(Fish)	EC <sub>50</sub> : 2.4mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 8.9mg/L (72h)(Algae)
<b>2-methylpropan-2-ol</b>	LC <sub>50</sub> : >120mg/L (96h)(Fish)	EC <sub>50</sub> : >110mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >110mg/L (72h)(Algae)
<b>Cyclohexanone</b>	LC <sub>50</sub> :630mg/L (96h)(Fish)	No information available	No information available
<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>1,2,3-trimethylbenzene</b>	LC <sub>50</sub> : 7.8mg/L (96h)(Fish)	EC <sub>50</sub> : 2.7mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 5.7mg/L (72h)(Algae)
<b>Mesitylene</b>	LC <sub>50</sub> : 12.52mg/L (96h)(Fish)	No information available	No information available
<b>Cyclohexane</b>	LC <sub>50</sub> : 4.35mg/L (96h)(Fish)	No information available	No information available
<b>Isobutyl acetate</b>	LC <sub>50</sub> : 17mg/L (96h)(Fish)	EC <sub>50</sub> : 25mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 370mg/L (72h)(Algae)
<b>Toluene</b>	LC <sub>50</sub> : 25mg/L (96h)(Fish)	EC <sub>50</sub> : 4.1mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 29mg/L (72h)(Algae)
<b>Ethylbenzene</b>	LC <sub>50</sub> : 4.2mg/L (96h)(Fish)	EC <sub>50</sub> : 4.75mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 3.6mg/L (96h)(Algae)
<b>Styrene</b>	LC <sub>50</sub> : 4.02mg/L (96h)(Fish)	EC <sub>50</sub> : 4.7mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 0.72mg/L (96h)(Algae)

### Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
<b>m-xylene</b>	No information available	NOEC : 0.41mg/L(Crustaceans)	NOEC : 5.3mg/L(Algae)
<b>2-methylpropan-2-ol</b>	No information available	No information available	NOEC : 110mg/L(Algae)
<b>Acetonitrile</b>	NOEC : 102mg/L(Fish)	NOEC : >960mg/L(Crustaceans)	NOEC : 700mg/L(Algae)

<b>1,2,3-trimethylbenzene</b>	No information available	No information available	NOEC : 0.38mg/L(Algae)
<b>o-xylene</b>	No information available	NOEC : 0.63mg/L(Crustaceans)	NOEC : 0.73mg/L(Algae)
<b>Propan-2-ol</b>	NOEC : > 100mg/L(Fish)	NOEC : >100mg/L(Crustaceans)	NOEC : 1000mg/L(Algae)
<b>Butanone</b>	No information available	NOEC : 100mg/L(Crustaceans)	NOEC : 93mg/L(Algae)
<b>Isobutyl acetate</b>	No information available	NOEC : 23mg/L(Crustaceans)	NOEC : 95mg/L(Algae)
<b>Toluene</b>	No information available	NOEC : 1.2mg/L(Crustaceans)	NOEC : 9.1mg/L(Algae)
<b>Butan-1-ol</b>	NOEC : 46mg/L(Fish)	NOEC : 4.1mg/L(Crustaceans)	NOEC : 180mg/L(Algae)
<b>p-xylene</b>	No information available	NOEC : 1.3mg/L(Crustaceans)	NOEC : 4.4mg/L(Algae)

## 12.2 Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
<b>2-methylpropan-2-ol</b>	High(Half-life = 360 days)	Low(Half-life = 24.58 days)
<b>N-hexane</b>	Low	Low
<b>Butanone</b>	Low(Half-life = 14 days)	Low(Half-life = 26.75 days)
<b>Butan-1-ol</b>	Low(Half-life = 54 days)	Low(Half-life = 3.65 days)
<b>p-xylene</b>	High(Half-life = 360 days)	Low(Half-life = 1.75 days)
<b>m-xylene</b>	High(Half-life = 360 days)	Low(Half-life = 1.08 days)
<b>o-xylene</b>	High(Half-life = 360 days)	Low(Half-life = 1.83 days)
<b>Cyclohexanone</b>	Low	Low
<b>1,2,4-trimethylbenzene</b>	Low(Half-life = 56 days)	Low(Half-life = 0.67 days)
<b>Butyl glycollate</b>	Low	Low
<b>1,2,3-trimethylbenzene</b>	High	High

## 12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
<b>2-methylpropan-2-ol</b>	Low	BCF=1.09
<b>N-hexane</b>	Medium	Log Kow=3.9
<b>Butanone</b>	Low	Log Kow=0.29
<b>Butan-1-ol</b>	Low	BCF=64
<b>p-xylene</b>	Low	BCF=2.2
<b>m-xylene</b>	Low	BCF=1.37
<b>o-xylene</b>	Low	BCF=219
<b>Cyclohexanone</b>	Low	BCF=2.45
<b>1,2,4-trimethylbenzene</b>	Low	BCF=275
<b>Butyl glycollate</b>	Low	Log Kow=0.3816

1,2,3-trimethylbenzene	Low	BCF=259
------------------------	-----	---------

#### 12.4 Mobility in soil

Component	log Koc	Remark
Acetonitrile	0.653	
Propan-2-ol	0.54	20 °C
2-methylpropan-2-ol	0.168	
N-hexane	≥2.37 - ≤3.16	20 °C , pH=7.0
Butanone	0.654	25 °C
Cyclohexane	2.89	20 °C
Benzene	2.13	20 °C
Butan-1-ol	0.54	20 °C
Toluene	2.31	20 °C
Ethylbenzene	3.12	20 °C
p-xylene	2.73	20 °C
m-xylene	2.73	20 °C
o-xylene	2.73	20 °C
Styrene	2.55	
Cyclohexanone	1.60	20 °C
Mesitylene	2.87	
1,2,4-trimethylbenzene	3.04	20 °C
Butyl glycollate	0.66	20 °C
1,2,3-trimethylbenzene	2.865	

#### 12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Acetonitrile	Not PBT/vPvB
Acetone	Not PBT/vPvB
Propan-2-ol	Not PBT/vPvB
2-methylpropan-2-ol	Not PBT/vPvB
N-hexane	Not PBT/vPvB
Butanone	Not PBT/vPvB
Ethyl acetate	Not PBT/vPvB
Cyclohexane	Not PBT/vPvB
Benzene	Not PBT/vPvB
Butan-1-ol	Not PBT/vPvB
4-methylpentan-2-one	Not PBT/vPvB
Toluene	Not PBT/vPvB

<b>Isobutyl acetate</b>	Not PBT/vPvB
<b>N-butyl acetate</b>	Not PBT/vPvB
<b>Ethylbenzene</b>	Not PBT/vPvB
<b>p-xylene</b>	Not PBT/vPvB
<b>m-xylene</b>	Not PBT/vPvB
<b>o-xylene</b>	Not PBT/vPvB
<b>Styrene</b>	Not PBT/vPvB
<b>Cyclohexanone</b>	Insufficient information, temporarily unable to evaluate
<b>Mesitylene</b>	Not PBT/vPvB
<b>1,2,4-trimethylbenzene</b>	Not PBT/vPvB
<b>Butyl glycollate</b>	Not PBT/vPvB
<b>1,2,3-trimethylbenzene</b>	Insufficient information, temporarily unable to evaluate

## 12.6 Endocrine disrupting properties

<b>Component</b>	<b>Endocrine disrupting properties</b>
<b>Acetonitrile</b>	No information available
<b>Acetone</b>	No information available
<b>Propan-2-ol</b>	No information available
<b>2-methylpropan-2-ol</b>	No information available
<b>N-hexane</b>	No information available
<b>Butanone</b>	No information available
<b>Ethyl acetate</b>	No information available
<b>Cyclohexane</b>	No information available
<b>Benzene</b>	No information available
<b>Butan-1-ol</b>	No information available
<b>4-methylpentan-2-one</b>	No information available
<b>Toluene</b>	No information available
<b>Isobutyl acetate</b>	No information available
<b>N-butyl acetate</b>	No information available
<b>Ethylbenzene</b>	No information available
<b>p-xylene</b>	No information available
<b>m-xylene</b>	No information available
<b>o-xylene</b>	No information available
<b>Styrene</b>	No information available
<b>Cyclohexanone</b>	No information available
<b>Mesitylene</b>	No information available
<b>1,2,4-trimethylbenzene</b>	No information available
<b>Butyl glycollate</b>	No information available

1,2,3-trimethylbenzene	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	1992
14.2 UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
14.3 Transport hazard class	3+6.1
14.4 Packing group	II
14.5 Environmental hazards (Yes or no)	No

### IATA-DGR

14.1 UN number	1992
14.2 UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
14.3 Transport hazard class	3+6.1
14.4 Packing group	II
14.5 Environmental hazards (Yes or no)	No

### UN-ADR

14.1 UN number	1992
14.2 UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
14.3 Transport hazard class	3+6.1
14.4 Packing group	II
14.5 Environmental hazards (Yes or no)	No

### Special precautions for user

	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.

### 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
Acetonitrile	√	√	√	√	√	√	√	√	√	√	√	√	√
Acetone	√	√	√	√	√	√	√	√	√	√	√	√	√
Propan-2-ol	√	√	√	√	√	√	√	√	√	√	√	√	√
2-methylpropan-2-ol	√	√	√	√	√	√	√	√	√	√	√	√	√
N-hexane	√	√	√	√	√	√	√	√	√	√	√	√	√
Butanone	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethyl acetate	√	√	√	√	√	√	√	√	√	√	√	√	√
Cyclohexane	√	√	√	√	√	√	√	√	√	√	√	√	√
Benzene	√	√	√	√	√	√	√	√	√	√	√	√	√
Butan-1-ol	√	√	√	√	√	√	√	√	√	√	√	√	√
4-methylpentan-2-one	√	√	√	√	√	√	√	√	√	√	√	√	√
Toluene	√	√	√	√	√	√	√	√	√	√	√	√	√
Isobutyl acetate	√	√	√	√	√	√	√	√	√	√	√	√	√
N-butyl acetate	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethylbenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
p-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√
m-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√
o-xylene	√	√	√	√	√	√	√	√	√	√	√	√	√

<b>Styrene</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Cyclohexanone</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Mesitylene</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>1,2,4-trimethylbenzene</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Butyl glycolate</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>1,2,3-trimethylbenzene</b>	√	√	√	√	√	√	√	√	√	√	√	×	√	√

- 【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
<b>Acetonitrile</b>	×	×	×
<b>Acetone</b>	×	×	×
<b>Propan-2-ol</b>	×	×	×
<b>2-methylpropan-2-ol</b>	×	×	×
<b>N-hexane</b>	×	×	×
<b>Butanone</b>	×	×	×
<b>Ethyl acetate</b>	×	×	×
<b>Cyclohexane</b>	×	×	×
<b>Benzene</b>	×	×	×
<b>Butan-1-ol</b>	×	×	×
<b>4-methylpentan-2-one</b>	×	×	×
<b>Toluene</b>	×	×	×
<b>Isobutyl acetate</b>	×	×	×
<b>N-butyl acetate</b>	×	×	×
<b>Ethylbenzene</b>	×	×	×
<b>p-xylene</b>	×	×	×
<b>m-xylene</b>	×	×	×
<b>o-xylene</b>	×	×	×
<b>Styrene</b>	×	×	×
<b>Cyclohexanone</b>	×	×	×

<b>Mesitylene</b>	x	x	x
<b>1,2,4-trimethylbenzene</b>	x	x	x
<b>Butyl glycolate</b>	x	x	x
<b>1,2,3-trimethylbenzene</b>	x	x	x

[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
<b>Acetonitrile</b>	x	x	x	√	√	x	x	x	x
<b>Acetone</b>	x	x	x	√	√	x	x	x	x
<b>Propan-2-ol</b>	x	x	x	√	√	x	x	x	x
<b>2-methylpropan-2-ol</b>	x	x	x	√	√	√	x	x	x
<b>N-hexane</b>	x	x	x	√	√	√	x	x	x
<b>Butanone</b>	x	x	x	√	√	√	x	x	x
<b>Ethyl acetate</b>	x	x	x	√	√	x	x	x	x
<b>Cyclohexane</b>	x	x	√	√	√	x	x	x	x
<b>Benzene</b>	x	x	√	√	√	x	√	x	x
<b>Butan-1-ol</b>	x	x	x	√	√	√	x	x	x
<b>4-methylpentan-2-one</b>	x	x	x	√	√	x	x	x	x
<b>Toluene</b>	x	x	√	√	√	√	x	x	x
<b>Isobutyl acetate</b>	x	x	x	√	√	x	x	x	x
<b>N-butyl acetate</b>	x	x	x	√	√	x	x	x	x
<b>Ethylbenzene</b>	x	x	x	√	√	x	x	x	x
<b>p-xylene</b>	x	x	x	√	√	√	x	x	x
<b>m-xylene</b>	x	x	x	√	√	√	x	x	x
<b>o-xylene</b>	x	x	x	√	√	√	x	x	x
<b>Styrene</b>	x	x	x	√	√	x	x	x	x
<b>Cyclohexanone</b>	x	x	x	√	√	√	x	x	x
<b>Mesitylene</b>	x	x	x	√	√	x	x	x	x
<b>1,2,4-trimethylbenzene</b>	x	x	x	√	√	x	x	x	x
<b>Butyl glycolate</b>	x	x	x	√	√	x	x	x	x
<b>1,2,3-trimethylbenzene</b>	x	x	x	√	x	x	x	x	x

[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.  
 “x” No data or not included in the regulations.

### German water hazard class(WGK)

Component	WGK	Remark
Acetonitrile	WGK 2	
Acetone	WGK 1	
Propan-2-ol	WGK 1	
2-methylpropan-2-ol	WGK 1	
N-hexane	WGK 3	
Butanone	WGK 1	
Ethyl acetate	WGK 1	
Cyclohexane	WGK 2	
Benzene	WGK 3	
Butan-1-ol	WGK 1	
4-methylpentan-2-one	WGK 1	
Toluene	WGK 3	
Isobutyl acetate	WGK 1	
N-butyl acetate	WGK 1	
Ethylbenzene	WGK 1	
p-xylene	WGK 2	
m-xylene	WGK 2	
o-xylene	WGK 2	
Styrene	WGK 2	
Cyclohexanone	WGK 1	
1,2,4-trimethylbenzene	WGK 2	
Butyl glycollate	WGK 1	

- 【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
Acetone	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or	

	Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Propan-2-ol</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>2-methylpropan-2-ol</b>	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/m <sup>3</sup> The mass per unit volume of 0,15 g/m <sup>3</sup> 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/m <sup>3</sup> .	
<b>N-hexane</b>	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/m <sup>3</sup>	
<b>Butanone</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Ethyl acetate</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Cyclohexane</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units	

	with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Benzene</b>	Chapter 5.2.7.1.1 Carcinogenic substances. Class II. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 1,5 g/hr or Mass conc.: 0,5 mg/m <sup>3</sup>	
<b>Butan-1-ol</b>	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>4-methylpentan-2-one</b>	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/m <sup>3</sup>	
<b>Toluene</b>	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/m <sup>3</sup>	
<b>Isobutyl acetate</b>	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>N-butyl acetate</b>	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Ethylbenzene</b>	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>p-xylene</b>	Chapter 5.2.5 Organic Substances. The following values,	

	specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>m-xylene</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>o-xylene</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Styrene</b>	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/m <sup>3</sup>	
<b>Cyclohexanone</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>Mesitylene</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
<b>1,2,4-trimethylbenzene</b>	Chapter 5.2.5 Organic Substances.The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas:Mass flow:0,50 kg/hr or Mass conc.:50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not	

	allowed to exceed 1,5 kg/h.	
<b>Butyl glycollate</b>	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/m <sup>3</sup>	
<b>1,2,3-trimethylbenzene</b>	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m <sup>3</sup> At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	

### German technical rules for hazardous substances (TRGS)

Component	TRGS	Remark
<b>Acetonitrile</b>	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	
<b>Acetone</b>	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	
<b>Propan-2-ol</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 906	
<b>2-methylpropan-2-ol</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724	
<b>N-hexane</b>	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	
<b>Butanone</b>	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	
<b>Ethyl acetate</b>	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	

<b>Cyclohexane</b>	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	
<b>Benzene</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724	
<b>Butan-1-ol</b>	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	
<b>4-methylpentan-2-one</b>	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	
<b>Toluene</b>	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	
<b>Isobutyl acetate</b>	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	
<b>N-butyl acetate</b>	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	
<b>Ethylbenzene</b>	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	
<b>p-xylene</b>	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	
<b>m-xylene</b>	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	
<b>o-xylene</b>	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	
<b>Styrene</b>	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	
<b>Cyclohexanone</b>	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	
<b>Mesitylene</b>	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	
<b>1,2,4-trimethylbenzene</b>	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	
<b>Butyl glycolate</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>1,2,3-trimethylbenzene</b>	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

<b>Creation Date</b>	2026/01/12
<b>Revision Date</b>	-
<b>Reason for revision</b>	-

### Reference

- [1] IPCS: The International Chemical SafetyCards (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
P <sub>OW</sub>	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.