

## Safety Data Sheet

# 26 Mix azo dye in acetonitrile

Version : V2.0.0.1

Report No. : BWQ8494-2016-MSDS-US

Creation Date : 2025/11/18

Revision Date : -



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

## 1 Identification

### Product identifier

Product Name	26 Mix azo dye in acetonitrile
Cat No.	BWQ8494-2016
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
Sensitization - skin	Category 1
Serious eye damage/irritation	Category 2
Acute Toxicity - Inhalation	Category 4
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1
Reproductive toxicity	Category 2

**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
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H340	May cause genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility

**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.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
<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.
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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

<b>Inhaled</b>	Sore throat. Weakness. Abdominal pain. Laboured breathing. Convulsions. Unconsciousness. Vomiting. Symptoms may be delayed.
<b>Ingestion</b>	(Further see Inhalation).
<b>Skin Contact</b>	Redness.
<b>Eye</b>	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, %)
Acetonitrile	75-05-8	200-835-2	96.672
Biphenyl-4-ylamine	92-67-1	202-177-1	0.128
p,p'-Diaminodiphenyl	92-87-5	202-199-1	0.128
2-naphthylamine	91-59-8	202-080-4	0.128
3,3'-dichlorobenzidine	91-94-1	202-109-0	0.128
4,4'-bi-o-toluidine	119-93-7	204-358-0	0.128
4-chloroaniline	106-47-8	203-401-0	0.128
5-nitro-o-toluidine	99-55-8	202-765-8	0.128
o-toluidine	95-53-4	202-429-0	0.128
4,4'-methylenebis[2-chloroaniline]	101-14-4	202-918-9	0.128

2,6-xylydine	87-62-7	201-758-7	0.128
2,4-xylydine	95-68-1	202-440-0	0.128
4-chloro-o-toluidine	95-69-2	202-441-6	0.128
4-aminoazobenzene	60-09-3	200-453-6	0.128
4,4'-methylenedianiline	101-77-9	202-974-4	0.128
4,4'-oxydianiline	101-80-4	202-977-0	0.128
6-methoxy-m-toluidine	120-71-8	204-419-1	0.128
4,4'-thiodianiline	139-65-1	205-370-9	0.128
2,4,5-trimethylaniline	137-17-7	205-282-0	0.128
3,3'-dimethoxybenzidine	119-90-4	204-355-4	0.128
4-methoxy-m-phenylenediamine	615-05-4	210-406-1	0.128
4-methyl-m-phenylenediamine	95-80-7	202-453-1	0.128
4-o-tolylazo-o-toluidine	97-56-3	202-591-2	0.128
o-anisidine	90-04-0	201-963-1	0.128
4,4'-methylenedio-toluidine	838-88-0	212-658-8	0.128
Aniline	62-53-3	200-539-3	0.128
p-phenylenediamine	106-50-3	203-404-7	0.128

## 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	-	-	-
<b>Biphenyl-4-ylamine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.007	-	-
	Hungary	-	10	-	-
	Italy	-	-	-	0.001
	Poland	-	0.001	-	-
<b>p,p'-Diaminodiphenyl</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.008	-	-
	Hungary	-	0.008	-	-
	Italy	-	-	0.001	-
<b>2-naphthylamine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.005	-	-
	Hungary	-	0.005	-	-
	Italy	-	-	-	0.001
<b>3,3'-dichlorobenzidine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	Austria	0.003	0.03	0.012	0.12
	Hungary	-	0.03	-	-
	Switzerland	0.003	0.03	-	-
<b>4,4'-bi-o-toluidine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	USA - NIOSH	-	-	-	0.02
	Austria	0.003	0.03	0.012	0.12
	Poland	-	0.03	-	-
<b>4-chloroaniline</b>	Austria	0.04	0.2	0.12	0.8

	Germany (AGS)	0.06	0.3	0.12	0.6
	Hungary	-	0.2	-	0.8
	Poland	-	3	-	10
	Romania	-	2	-	5
	Switzerland	0.04	0.2(inhalable aerosol)	-	-
<b>5-nitro-o-toluidine</b>	Canada - Ontario	-	1	-	-
	USA - ACGIH	-	1(inhalable fraction and vapor)	-	-
	Austria	-	0.5	-	2
	Belgium	-	1	-	-
	Ireland	-	1	-	-
	Switzerland	0.08	0.5	-	-
<b>o-toluidine</b>	Japan - JSOH(2024–2025)	1	4.4	-	-
	Permissible exposure standards for workers in the workplace	5	22	10	33
	Australia	2	8.8	-	-
	Canada - Ontario	2	-	-	-
	European Union	0.1	0.5	-	-
	New Zealand	0.2	0.89	-	-
<b>4,4'-methylenebis[2-chloroaniline]</b>	Japan - JSOH(2024–2025)	-	0.005	-	-
	Permissible exposure standards for workers in the workplace	0.02	0.218	0.06	0.654
	Australia	0.02	0.22	-	-
	Canada - Ontario	0.0005	0.005	-	-
	European Union	-	0.01	-	-
	New Zealand	-	0.005	-	-
<b>2,6-xylydine</b>	Denmark	0.5	2.5	1	5
	Finland	5	25	10	50
	Ireland	0.5	2.5	-	-
	Norway	1	5	-	-
	Singapore	0.5	2.5	-	-
<b>2,4-xylydine</b>	Austria	5	25	20	20
	Denmark	0.5	2.5	1	5
	Finland	5	25	10	50

	Ireland	0.5	2.5	-	-
	Norway	1	5	-	-
	Singapore	0.5	2.5	-	-
<b>4,4'-methylenedianiline</b>	Japan - JSOH(2024–2025)	-	0.4	-	-
	Australia	0.1	0.81	-	-
	Canada - Ontario	-	0.04	-	-
	European Union	-	0.08	-	-
	New Zealand	0.002	0.0016	-	-
	USA - ACGIH	0.1	-	-	-
<b>6-methoxy-m-toluidine</b>	Austria	-	0.5	-	2
	Switzerland	-	0.5	-	-
<b>3,3'-dimethoxybenzidine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	Austria	0.003	0.03	0.012	0.12
	Poland	-	0.2	-	-
	South Korea	-	0.01	-	-
	Switzerland	0.003	0.03	-	-
<b>4-methyl-m-phenylenediamine</b>	Austria	0.02	0.1	0.08	0.4
	Poland	-	0.04	-	0.1
	Romania	1	5	2	10
	Switzerland	0.02	0.1	-	-
<b>o-anisidine</b>	Japan - JSOH(2024–2025)	0.1	0.5	-	-
	Permissible exposure standards for workers in the workplace	0.1	0.5	0.3	1.5
	Australia	0.1	0.5	-	-
	Canada - Ontario	-	0.5	-	-
	New Zealand	0.1	0.5	-	-
	USA - ACGIH	-	0.5	-	-
<b>4,4'-methylenedi-o-toluidine</b>	Austria	-	0.05	-	0.2
	Switzerland	-	0.05(inhalable aerosol)	-	-
<b>Aniline</b>	Japan - JSOH(2024–2025)	1	3.8	-	-
	Permissible exposure standards for	2	7.6	4	15.2

	workers in the workplace				
	Australia	2	7.6	-	-
	Canada - Ontario	2	-	-	-
	European Union	2	7.74	5	19.35
	New Zealand	1	4	2	8
<b>p-phenylenediamine</b>	Japan - JSOH(2024-2025)	-	0.1	-	-
	Permissible exposure standards for workers in the workplace	-	0.1	-	0.3
	Australia	-	0.1	-	-
	Canada - Ontario	-	0.1	-	-
	New Zealand	-	0.1	-	-
	USA - ACGIH	-	0.1	-	-

### 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.

### Personal protection equipment

<b>General requirement</b>	
<b>Eye protection</b>	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.

## 9 Physical and chemical properties and safety characteristics

### Physical and chemical properties

<b>Appearance (physical state, color, etc.)</b>	Brown 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[%(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

## 10 Stability and reactivity

### | Stability and reactivity

<b>Reactivity</b>	Contact with incompatible substances can cause decomposition or other chemical reactions.
<b>Chemical stability</b>	Stable under proper operation and storage conditions.
<b>Possibility of hazardous reactions</b>	In contact with N-halogen compounds may cause a potensive explosive hazardous. In contact with oxidants, anhydrides, metals, metal oxides / KMnO4 metal salts, nitro-compounds may cause a fire or explosion.
<b>Conditions to avoid</b>	Incompatible materials, heat, flame and spark.
<b>Incompatible materials</b>	N - halogenated compounds, sulfuric acid and strong oxidants. Oxidants, halogen, anhydrides, acids, metals, metal oxides, potassium permanganate, nitro-compounds and metal salts.
<b>Hazardous decomposition products</b>	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>3,3'-dimethoxybenzidine</b>	1920mg/kg(Rat)	No information available	No information available
<b>6-methoxy-m-toluidine</b>	1450mg/kg(Rat)	No information available	No information available
<b>4,4'-oxydianiline</b>	725mg/kg(Rat)	No information available	No information available
<b>p-phenylenediamine</b>	80mg/kg(Rat)	No information available	0.92.mg/L(Rat)
<b>Biphenyl-4-ylamine</b>	500mg/kg(Rat)	No information available	No information available
<b>2,6-xylidine</b>	840mg/kg(Rat)	No information available	No information available
<b>4-methoxy-m-phenylenediamine</b>	460mg/kg(Rat)	No information available	No information available
<b>4,4'-thiodianiline</b>	900mg/kg(Rat)	No information available	No information available
<b>Acetonitrile</b>	2460mg/kg(Rat)	> 2000mg/kg(Rabbit)	4.748mg/L(Rabbit)
<b>o-toluidine</b>	670mg/kg(Rat)	3260mg/kg(Rabbit)	3.778mg/L(Rat)
<b>Aniline</b>	250mg/kg(Rat)	837mg/kg(Rabbit)	No information available

<b>p,p'-Diaminodiphenyl</b>	309mg/kg(Rat)	No information available	No information available
<b>2-naphthylamine</b>	727mg/kg(Rat)	No information available	No information available
<b>o-anisidine</b>	1150mg/kg(Rat)	No information available	No information available
<b>4,4'-methylenedianiline</b>	517mg/kg(Rat)	1000mg/kg(Rat)	No information available
<b>4-chloro-o-toluidine</b>	1058mg/kg(Rat)	No information available	No information available
<b>4,4'-methylenebis[2-chloroaniline]</b>	1140mg/kg(Rat)	> 5000mg/kg(Rabbit)	No information available
<b>4-chloroaniline</b>	300mg/kg(Rat)	360mg/kg(Rabbit)	2.34mg/L(Rat)
<b>2,4-xylydine</b>	467mg/kg(Rat)	No information available	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>Biphenyl-4-ylamine</b>	Category 1	Category K	Listed
<b>p,p'-Diaminodiphenyl</b>	Category 1	Category K	Listed
<b>2-naphthylamine</b>	Category 1	Category K	Listed
<b>3,3'-dichlorobenzidine</b>	Category 2B	Category R	Listed
<b>4,4'-bi-o-toluidine</b>	Category 2B	Category R	Not Listed
<b>4-chloroaniline</b>	Category 2B	Not Listed	Not Listed
<b>5-nitro-o-toluidine</b>	Category 3	Not Listed	Not Listed
<b>o-toluidine</b>	Category 1	Category K	Not Listed
<b>4,4'-methylenebis[2-chloroaniline]</b>	Category 1(Remark 1)	Category R	Not Listed
<b>2,6-xylydine</b>	Category 2B	Not Listed	Not Listed
<b>2,4-xylydine</b>	Category 3	Not Listed	Not Listed
<b>4-chloro-o-toluidine</b>	Category 2A	Category R	Not Listed
<b>4-aminoazobenzene</b>	Category 2B	Not Listed	Not Listed
<b>4,4'-methylenedianiline</b>	Category 2B	Category R	Not Listed
<b>4,4'-oxydianiline</b>	Category 2B	Category R	Not Listed
<b>6-methoxy-m-toluidine</b>	Category 2B	Category R	Not Listed
<b>4,4'-thiodianiline</b>	Category 2B	Category R	Not Listed
<b>2,4,5-trimethylaniline</b>	Category 3	Not Listed	Not Listed
<b>3,3'-dimethoxybenzidine</b>	Category 2B	Category R	Not Listed
<b>4-methoxy-m-phenylenediamine</b>	Category 2B	Not Listed	Not Listed
<b>4-methyl-m-phenylenediamine</b>	Category 2B	Category R	Not Listed
<b>4-o-tolylazo-o-toluidine</b>	Category 2B	Category R	Not Listed
<b>o-anisidine</b>	Category 2A(Remark 2)	Category R	Not Listed
<b>4,4'-methylenedi-o-toluidi</b>	Category 2B	Not Listed	Not Listed

<b>ne</b>			
<b>Aniline</b>	Category 2A(Remark 3)	Not Listed	Not Listed
<b>p-phenylenediamine</b>	Category 3	Not Listed	Not Listed

Remark 1: Overall evaluation upgraded to Group 1 based on mechanistic and other relevant data; Remark 2: see also ortho-Anisidine hydrochloride; Remark 3: see also Aniline hydrochloride

## Others

<b>26 Mix azo dye in acetonitrile</b>	
<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>	May cause an allergic skin reaction(Category 1)
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met
<b>Reproductive toxicity</b>	Suspected of damaging fertility(Category 2)
<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)

## 12 Ecological information

### Acute aquatic toxicity

<b>Component</b>	<b>Fish</b>	<b>Crustaceans</b>	<b>Algae or other aquatic plants</b>
<b>3,3'-dimethoxybenzidine</b>	LC <sub>50</sub> : 26mg/L (96h)(Fish)	No information available	ErC <sub>50</sub> : 14mg/L (72h)(Algae)
<b>6-methoxy-m-toluidine</b>	LC <sub>50</sub> : 12.27mg/L (96h)(Fish)	No information available	No information available
<b>4,4'-methylenedi-o-toluidine</b>	LC <sub>50</sub> : 460mg/L (96h)(Fish)	No information available	No information available
<b>4,4'-oxydianiline</b>	LC <sub>50</sub> : 22mg/L (96h)(Fish)	EC <sub>50</sub> : 0.99mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 28mg/L (72h)(Algae)
<b>p-phenylenediamine</b>	LC <sub>50</sub> : 3.9mg/L (96h)(Fish)	EC <sub>50</sub> : 0.28 mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 0.18mg/L (72h)(Algae)
<b>2,6-xylidine</b>	LC <sub>50</sub> : >98mg/L (96h)(Fish)	EC <sub>50</sub> : 20mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >100mg/L (72h)(Algae)
<b>4-aminoazobenzene</b>	LC <sub>50</sub> : 0.35mg/L (96h)(Fish)	EC <sub>50</sub> : 0.46mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 2.9mg/L (72h)(Algae)
<b>4-methyl-m-phenylenediamine</b>	LC <sub>50</sub> : 1170mg/L (96h)(Fish)	EC <sub>50</sub> : 15mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 9.54mg/L (96h)(Algae)
<b>4,4'-bi-o-toluidine</b>	LC <sub>50</sub> : 13mg/L (96h)(Fish)	EC <sub>50</sub> : 4.5mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 6.3mg/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>o-toluidine</b>	LC <sub>50</sub> : 81.3mg/L (96h)(Fish)	EC <sub>50</sub> : 16mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 29.4mg/L (96h)(Algae)
<b>Aniline</b>	LC <sub>50</sub> : 27mg/L (96h)(Fish)	EC <sub>50</sub> : 0.32mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 20mg/L (96h)(Algae)

<b>p,p'-Diaminodiphenyl</b>	LC <sub>50</sub> : 5.88mg/L (96h)(Fish)	EC <sub>50</sub> : 0.6mg/L (48h)(Crustaceans)	No information available
<b>2-naphthylamine</b>	LC <sub>50</sub> : 3.9mg/L (96h)(Fish)	EC <sub>50</sub> : 0.84mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 0.50mg/L (72h)(Algae)
<b>o-anisidine</b>	LC <sub>50</sub> : 200mg/L (96h)(Fish)	EC <sub>50</sub> : 23mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >30mg/L (72h)(Algae)
<b>5-nitro-o-toluidine</b>	LC <sub>50</sub> : 70mg/L (96h)(Fish)	EC <sub>50</sub> : 22.5mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 15.4mg/L (96h)(Algae)
<b>4,4'-methylenedianiline</b>	LC <sub>50</sub> : 21mg/L (96h)(Fish)	EC <sub>50</sub> : 2.5mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 12mg/L (72h)(Algae)
<b>4,4'-methylenebis[2-chloroaniline]</b>	LC <sub>50</sub> : 0.61mg/L (96h)(Fish)	EC <sub>50</sub> : 0.92mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : >0.85mg/L (72h)(Algae)
<b>3,3'-dichlorobenzidine</b>	LC <sub>50</sub> : 0.51mg/L (96h)(Fish)	EC <sub>50</sub> : 1.9mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 1.4mg/L (72h)(Algae)
<b>4-chloroaniline</b>	LC <sub>50</sub> : 5.8mg/L (96h)(Fish)	EC <sub>50</sub> : 0.31mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 2.6mg/L (96h)(Algae)
<b>2,4-xylydine</b>	No information available	EC <sub>50</sub> : 9.9mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 28.6mg/L (72h)(Algae)

### Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
<b>3,3'-dimethoxybenzidine</b>	No information available	No information available	NOEC : 0.58mg/L(Algae)
<b>4,4'-oxydianiline</b>	NOEC : 5mg/L(Fish)	No information available	NOEC : 3.9mg/L(Algae)
<b>p-phenylenediamine</b>	No information available	NOEC : 0.043mg/L(Crustaceans)	NOEC : 0.01mg/L(Algae)
<b>2,6-xylydine</b>	No information available	NOEC : 2.2mg/L(Crustaceans)	NOEC : 32mg/L(Algae)
<b>4-aminoazobenzene</b>	No information available	NOEC : 0.0071mg/L(Crustaceans)	NOEC : 0.14mg/L(Algae)
<b>4-methyl-m-phenylenediamine</b>	No information available	NOEC : 0.52mg/L(Crustaceans)	NOEC : 1.0mg/L(Algae)
<b>Acetonitrile</b>	NOEC : 102mg/L(Fish)	NOEC : >960mg/L(Crustaceans)	NOEC : 700mg/L(Algae)
<b>4,4'-bi-o-toluidine</b>	No information available	NOEC : 0.26mg/L(Crustaceans)	NOEC : 0.45mg/L(Algae)
<b>o-toluidine</b>	NOEC : 13mg/L(Fish)	NOEC : 0.013mg/L(Crustaceans)	NOEC : 6.4mg/L(Algae)
<b>Aniline</b>	NOEC : 1.9mg/L(Fish)	NOEC : 0.0063mg/L(Crustaceans)	NOEC : 3.7mg/L(Algae)
<b>2-naphthylamine</b>	No information available	NOEC : 0.014mg/L(Crustaceans)	NOEC : 0.16mg/L(Algae)
<b>o-anisidine</b>	NOEC : 25mg/L(Fish)	NOEC : 0.25mg/L(Crustaceans)	NOEC : 7.5mg/L(Algae)
<b>4,4'-methylenedianiline</b>	No information available	NOEC : 0.0053mg/L(Crustaceans)	NOEC : 4.0mg/L(Algae)
<b>3,3'-dichlorobenzidine</b>	No information available	NOEC : 0.21mg/L(Crustaceans)	NOEC : 0.15mg/L(Algae)
<b>4,4'-methylenebis[2-chloroaniline]</b>	No information available	NOEC : 0.0095mg/L(Crustaceans)	NOEC : 0.54mg/L(Algae)
<b>4-chloroaniline</b>	No information available	NOEC :	NOEC : 0.32mg/L(Algae)

0.0032mg/L(Crustaceans)

### Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Biphenyl-4-ylamine	Low(Half-life = 14 days)	Low(Half-life = 0.25 days)
3,3'-dichlorobenzidine	High(Half-life = 360 days)	Low(Half-life = 0.38 days)
4,4'-bi-o-toluidine	Low(Half-life = 14 days)	Low(Half-life = 0.11 days)
5-nitro-o-toluidine	Low(Half-life = 56 days)	Low(Half-life = 0.83 days)
o-toluidine	Low(Half-life = 14 days)	Low(Half-life = 0.16 days)
4,4'-methylenebis[2-chloroaniline]	High(Half-life = 360 days)	Low(Half-life = 0.12 days)
2,6-xylydine	High(Half-life = 360 days)	Low(Half-life = 0.14 days)
2,4-xylydine	High	High
4-aminoazobenzene	Low(Half-life = 56 days)	Low(Half-life = 0.4 days)
4,4'-methylenedianiline	Low(Half-life = 14 days)	Low(Half-life = 0.11 days)
4,4'-oxydianiline	High(Half-life = 360 days)	Low(Half-life = 0.13 days)
6-methoxy-m-toluidine	High(Half-life = 360 days)	Low(Half-life = 0.12 days)
4,4'-thiodianiline	Low(Half-life = 56 days)	Low(Half-life = 0.15 days)
3,3'-dimethoxybenzidine	High(Half-life = 360 days)	Low(Half-life = 0.14 days)
4-o-tolylazo-o-toluidine	Low(Half-life = 56 days)	Low(Half-life = 0.34 days)
o-anisidine	High(Half-life = 360 days)	Low(Half-life = 0.22 days)
4,4'-methylenedi-o-toluidine	High	High
p-phenylenediamine	Low(Half-life = 56 days)	Low(Half-life = 0.12 days)

### Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Biphenyl-4-ylamine	Low	Log Kow=2.8
3,3'-dichlorobenzidine	Medium	BCF=940
4,4'-bi-o-toluidine	Low	BCF=83
5-nitro-o-toluidine	Low	Log Kow=1.87
o-toluidine	Low	Log Kow=1.32
4,4'-methylenebis[2-chloroaniline]	Low	BCF=398
2,6-xylydine	Low	BCF=96.2
2,4-xylydine	Low	BCF=10
4-aminoazobenzene	Low	BCF=42.4
4,4'-methylenedianiline	Low	BCF=15
4,4'-oxydianiline	Low	Log Kow=1.36
6-methoxy-m-toluidine	Low	BCF=4.6

4,4'-thiodianiline	Low	Log Kow=2.18
3,3'-dimethoxybenzidine	Low	Log Kow=1.81
4-o-tolylazo-o-toluidine	Medium	Log Kow=4.2887
o-anisidine	Low	Log Kow=1.18
4,4'-methylenedi-o-toluidine	Low	Log Kow=3.2761
p-phenylenediamine	Low	BCF=38

### | Mobility in soil

Component	log Koc	Remark
Acetonitrile	0.653	
Biphenyl-4-ylamine	3.228	
3,3'-dichlorobenzidine	3.874	
4,4'-bi-o-toluidine	3.874	
5-nitro-o-toluidine	1.931	
o-toluidine	1.68	20 °C
4,4'-methylenebis[2-chloroaniline]	3.57	20 °C
2,6-xylidine	2.088	
2,4-xylidine	2.079	
4-aminoazobenzene	2.723	
4,4'-methylenedianiline	3.848	
4,4'-oxydianiline	1.66	25 °C
6-methoxy-m-toluidine	1.722	
4,4'-thiodianiline	3.695	
3,3'-dimethoxybenzidine	3.160	
4-o-tolylazo-o-toluidine	3.160	
o-anisidine	1.512	
4,4'-methylenedi-o-toluidine	3.76	20 °C
p-phenylenediamine	1.53	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
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- ◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available
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- ◆ Transport in bulk in accordance with the IGC Code

	Not Available
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**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
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etc. When bulk transport, Prohibit the use of cement or wooden boats. Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.

## 15 Regulatory information

### International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Acetonitrile	√	√	√	√	√	√	√	√	√	√	√	√	√
Biphenyl-4-ylamine	√	√	√	×	√	√	√	×	×	×	√	√	√
p,p'-Diaminodiphenyl	√	√	√	×	√	√	×	√	×	×	√	√	√
2-naphthylamine	√	√	×	√	√	√	√	×	×	×	√	√	√
3,3'-dichlorobenzidine	√	√	√	×	√	√	√	√	√	√	√	√	√
4,4'-bi-o-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
4-chloroaniline	√	√	√	√	√	√	√	√	√	×	√	√	√
5-nitro-o-toluidine	√	√	√	×	×	√	√	√	√	×	√	√	√
o-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
4,4'-methylenebis[2-chloroaniline]	√	√	√	√	√	√	√	√	√	×	√	√	√
2,6-xylydine	√	√	√	√	√	√	√	√	√	×	√	√	√
2,4-xylydine	√	√	√	×	√	√	√	√	√	×	√	√	√
4-chloro-o-toluidine	×	√	√	×	×	×	×	√	√	×	×	√	√
4-aminoazobenzene	√	√	√	√	√	√	√	√	√	×	√	√	√
4,4'-methylenedianiline	√	√	√	√	√	√	√	√	√	√	√	√	√
4,4'-oxydianiline	√	√	√	×	√	√	√	√	√	×	√	√	√
6-methoxy-m-toluidine	√	√	√	×	×	√	√	×	√	√	×	√	√
4,4'-thiodianiline	√	√	√	×	×	×	√	×	√	×	×	√	√
2,4,5-trimethylaniline	×	√	×	×	×	×	×	×	×	×	×	√	√
3,3'-dimethoxybenzidine	√	√	√	√	×	√	√	√	√	×	√	√	√
4-methoxy-m-phenylenediamine	×	√	√	√	√	×	√	√	√	×	√	√	√
4-methyl-m-phenylenediamine	√	√	√	√	√	√	√	√	√	×	√	√	√
4-o-tolylazo-o-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
o-anisidine	√	√	√	√	√	√	√	√	√	×	√	√	√
4,4'-methylenedi-o-toluidine	√	√	√	×	×	×	×	×	√	×	×	√	√
Aniline	√	√	√	√	√	√	√	√	√	√	√	√	√
p-phenylenediamine	√	√	√	√	√	√	√	√	√	√	√	√	√

【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
Acetonitrile	x	x	x
Biphenyl-4-ylamine	x	x	x
p,p'-Diaminodiphenyl	x	x	x
2-naphthylamine	x	x	x
3,3'-dichlorobenzidine	x	x	x
4,4'-bi-o-toluidine	x	x	x
4-chloroaniline	x	x	x
5-nitro-o-toluidine	x	x	x
o-toluidine	x	x	x
4,4'-methylenebis[2-chloroaniline]	x	x	x
2,6-xylydine	x	x	x
2,4-xylydine	x	x	x
4-chloro-o-toluidine	x	x	x
4-aminoazobenzene	x	x	x
4,4'-methylenedianiline	x	x	x
4,4'-oxydianiline	x	x	x
6-methoxy-m-toluidine	x	x	x
4,4'-thiodianiline	x	x	x
2,4,5-trimethylaniline	x	x	x
3,3'-dimethoxybenzidine	x	x	x
4-methoxy-m-phenylenediamine	x	x	x
4-methyl-m-phenylenediamine	x	x	x
4-o-tolylazo-o-toluidine	x	x	x
o-anisidine	x	x	x
4,4'-methylenedi-o-toluidine	x	x	x
Aniline	x	x	x
p-phenylenediamine	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

### US chemical inventory

Component	A	B	C	D	E	F	G	H
Acetonitrile	√	×	√	√	√	√	√	×
Biphenyl-4-ylamine	√	×	√	√	√	√	√	√
p,p'-Diaminodiphenyl	√	×	√	√	√	√	√	√
2-naphthylamine	×	×	√	√	√	√	√	√
3,3'-dichlorobenzidine	√	×	√	√	√	√	√	√
4,4'-bi-o-toluidine	√	×	√	√	√	√	√	√
4-chloroaniline	×	×	√	√	√	√	√	√
5-nitro-o-toluidine	×	×	√	√	√	√	√	×
o-toluidine	√	×	√	√	√	√	√	√
4,4'-methylenebis[2-chloroaniline]	√	×	√	×	√	√	√	√
2,6-xylydine	×	×	×	√	√	√	√	√
2,4-xylydine	×	×	×	×	×	×	×	×
4-chloro-o-toluidine	×	×	×	√	√	√	×	√
4-aminoazobenzene	×	×	×	√	√	√	√	√
4,4'-methylenedianiline	√	×	√	√	√	√	√	√
4,4'-oxydianiline	×	×	×	√	√	√	√	√
6-methoxy-m-toluidine	×	×	×	√	√	√	√	√
4,4'-thiodianiline	×	×	×	√	√	√	√	√
2,4,5-trimethylaniline	×	×	×	√	×	×	×	×
3,3'-dimethoxybenzidine	√	×	√	√	√	√	√	√
4-methoxy-m-phenylene diamine	×	×	×	√	√	√	√	√
4-methyl-m-phenylenediamine	√	×	√	√	√	√	√	√
4-o-tolylazo-o-toluidine	×	×	×	√	√	√	√	√
o-anisidine	√	×	√	√	√	√	√	√
4,4'-methylenedi-o-toluidine	×	×	×	√	√	√	×	√
Aniline	√	√	√	√	√	√	√	√
p-phenylenediamine	√	×	√	√	√	√	√	×

- [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.

“x” 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.chemportal.org/chemportal/>.
- [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	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.