

## Safety Data Sheet

# 24 Mix azo dyes in acetonitrile/methanol

Version : V2.0.0.1

Report No. : BWQ8495-2016-MSDS-EP

Creation Date : 2026/01/04

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	24 Mix azo dyes in acetonitrile/methanol
Cat No.	BWQ8495-2016
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 3
Acute Toxicity - Dermal	Category 3
Serious eye damage/irritation	Category 2
Acute Toxicity - Inhalation	Category 3
Carcinogenicity	Category 1A

Specific target organ toxicity - single exposure	Category 1
Hazardous to the aquatic environment - long-term (chronic) hazard	Category 3

## 2.2 Label elements

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

## Hazard statements

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H319	Causes serious eye irritation
H331	Toxic if inhaled
H350	May cause cancer
H370	Causes damage to organs
H412	Harmful to aquatic life with long lasting effects

## 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.
P260	Do not breathe gas/mist/vapour/spray.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

### ◆ Response

P311	Call a POISON CENTER/ doctor.
P321	Specific treatment (see related instructions on the label).
P330	Rinse mouth.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	Small fire: dry chemical, CO <sub>2</sub> or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

◆ Storage

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

◆ Disposal

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

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Biphenyl-4-ylamine	Insufficient information, temporarily unable to evaluate
p,p'-Diaminodiphenyl	Insufficient information, temporarily unable to evaluate
2-naphthylamine	Insufficient information, temporarily unable to evaluate
3,3'-dichlorobenzidine	Insufficient information, temporarily unable to evaluate
4,4'-bi-o-toluidine	Insufficient information, temporarily unable to evaluate
4-chloroaniline	Not PBT/vPvB
5-nitro-o-toluidine	Insufficient information, temporarily unable to evaluate
o-toluidine	Not PBT/vPvB
4,4'-methylenebis[2-chloroaniline]	Not PBT/vPvB
2,6-xylylidine	Insufficient information, temporarily unable to evaluate
2,4-xylylidine	Insufficient information, temporarily unable to evaluate
4-chloro-o-toluidine	Insufficient information, temporarily unable to evaluate
4-aminoazobenzene	Insufficient information, temporarily unable to evaluate
4,4'-methylenedianiline	Not PBT/vPvB
4,4'-oxydianiline	Not PBT/vPvB
6-methoxy-m-toluidine	Insufficient information, temporarily unable to evaluate
4,4'-thiodianiline	Insufficient information, temporarily unable to evaluate
2,4,5-trimethylaniline	Insufficient information, temporarily unable to evaluate

<b>3,3'-dimethoxybenzidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methoxy-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methyl-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-o-tolylazo-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>o-anisidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenedi-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>Acetonitrile</b>	Not PBT/vPvB
<b>Methanol</b>	Not PBT/vPvB

◆ 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>Biphenyl-4-ylamine</b>	Insufficient information, temporarily unable to evaluate
<b>p,p'-Diaminodiphenyl</b>	Insufficient information, temporarily unable to evaluate
<b>2-naphthylamine</b>	Insufficient information, temporarily unable to evaluate
<b>3,3'-dichlorobenzidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-bi-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-chloroaniline</b>	Insufficient information, temporarily unable to evaluate
<b>5-nitro-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenebis[2-chloroaniline]</b>	Insufficient information, temporarily unable to evaluate
<b>2,6-xylydine</b>	Insufficient information, temporarily unable to evaluate
<b>2,4-xylydine</b>	Insufficient information, temporarily unable to evaluate
<b>4-chloro-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-aminoazobenzene</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenedianiline</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-oxydianiline</b>	Insufficient information, temporarily unable to evaluate
<b>6-methoxy-m-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-thiodianiline</b>	Insufficient information, temporarily unable to evaluate
<b>2,4,5-trimethylaniline</b>	Insufficient information, temporarily unable to evaluate
<b>3,3'-dimethoxybenzidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methoxy-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methyl-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-o-tolylazo-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>o-anisidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenedi-o-toluidine</b>	Insufficient information, temporarily unable to evaluate

<b>ne</b>	
<b>Acetonitrile</b>	Insufficient information, temporarily unable to evaluate
<b>Methanol</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>Biphenyl-4-ylamine</b> CAS : 92-67-1 EC : 202-177-1 Index No. : 612-072-00-6	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1A, H350	-
<b>p,p'-Diaminodiphenyl</b> CAS : 92-87-5 EC : 202-199-1 Index No. : 612-042-00-2	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1A, H350; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	H350A:C ≥ 0.01%
<b>2-naphthylamine</b> CAS : 91-59-8 EC : 202-080-4 Index No. : 612-022-00-3	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1A, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	H350A:C ≥ 0.01%
<b>3,3'-dichlorobenzidine</b> CAS : 91-94-1 EC : 202-109-0 Index No. : 612-068-00-4	0.0378	Acute Toxicity - Dermal, Category 4, H312; Sensitization - skin, Category 1, H317; Carcinogenicity, Category 1B, H350; 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>4,4'-bi-o-toluidine</b> CAS : 119-93-7 EC : 204-358-0 Index No. : 612-041-00-7	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>4-chloroaniline</b> CAS : 106-47-8 EC : 203-401-0 Index No. : 612-137-00-9	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Sensitization - skin, Category 1, H317; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 1B, H350; 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>5-nitro-o-toluidine</b> CAS : 99-55-8 EC : 202-765-8	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3,	-

Index No. : 612-210-00-5		H331; Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	
<b>o-toluidine</b> CAS : 95-53-4 EC : 202-429-0 Index No. : 612-091-00-X	0.0378	Acute Toxicity - Oral, Category 3, H301; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400	-
<b>4,4'-methylenebis[2-chloroaniline]</b> CAS : 101-14-4 EC : 202-918-9 Index No. : 612-078-00-9	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1B, H350; 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>2,6-xylydine</b> CAS : 87-62-7 EC : 201-758-7 Index No. : 612-161-00-X	0.0378	Acute Toxicity - Oral, Category 4, H302; Acute Toxicity - Dermal, Category 4, H312; Skin Corrosion/Irritation, Category 2, H315; Acute Toxicity - Inhalation, Category 4, H332; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>2,4-xylydine</b> CAS : 95-68-1 EC : 202-440-0 Index No. : -	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 2, H330; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>4-chloro-o-toluidine</b> CAS : 95-69-2 EC : 202-441-6 Index No. : 612-196-00-0	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; 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>4-aminoazobenzene</b> CAS : 60-09-3 EC : 200-453-6 Index No. : 611-008-00-4	0.0378	Carcinogenicity, Category 1B, H350; 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>4,4'-methylenedianiline</b> CAS : 101-77-9 EC : 202-974-4 Index No. : 612-051-00-1	0.0378	Sensitization - skin, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Specific target organ toxicity - single exposure, Category 1, H370; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-

<b>4,4'-oxydianiline</b> CAS : 101-80-4 EC : 202-977-0 Index No. : 612-199-00-7	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>6-methoxy-m-toluidine</b> CAS : 120-71-8 EC : 204-419-1 Index No. : 612-209-00-X	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1B, H350	-
<b>4,4'-thiodianiline</b> CAS : 139-65-1 EC : 205-370-9 Index No. : 612-198-00-1	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>2,4,5-trimethylaniline</b> CAS : 137-17-7 EC : 205-282-0 Index No. : 612-197-00-6	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>3,3'-dimethoxybenzidine</b> CAS : 119-90-4 EC : 204-355-4 Index No. : 612-036-00-X	0.0378	Acute Toxicity - Oral, Category 4, H302; Carcinogenicity, Category 1B, H350	-
<b>4-methoxy-m-phenylene diamine</b> CAS : 615-05-4 EC : 210-406-1 Index No. : 612-200-00-0	0.0378	Acute Toxicity - Oral, Category 4, H302; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>4-methyl-m-phenylenedi amine</b> CAS : 95-80-7 EC : 202-453-1 Index No. : 612-099-00-3	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 4, H312; Sensitization - skin, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
<b>4-o-tolylazo-o-toluidine</b> CAS : 97-56-3 EC : 202-591-2 Index No. : 611-006-00-3	0.0378	Sensitization - skin, Category 1, H317; Carcinogenicity, Category 1B, H350	-
<b>o-anisidine</b> CAS : 90-04-0 EC : 201-963-1 Index No. : 612-035-00-4	0.0378	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350	-
<b>4,4'-methylenedi-o-toluid ine</b> CAS : 838-88-0 EC : 212-658-8 Index No. : 612-085-00-7	0.0378	Acute Toxicity - Oral, Category 4, H302; Sensitization - skin, Category 1, H317; Carcinogenicity, Category 1B, H350; 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>Acetonitrile</b> CAS : 75-05-8 EC : 200-835-2 Index No. : 608-001-00-3	79.17	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>Methanol</b> CAS : 67-56-1 EC : 200-659-6 Index No. : 603-001-00-X	19.92	Flammable liquids, Category 2, H225; Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - single exposure, Category 1, H370	H370:C ≥ 10% H371:3% ≤ C < 10%

## 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.
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### 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 expansion or decompose explosively when heated or involved in fire.
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### 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.
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#### ◆ 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.
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## 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>
Biphenyl-4-ylamine	Permissible exposure standards for workers in the	-	-	-	-

	workplace				
	France	0.001	0.007	-	-
	Italy	-	-	-	0.001
	Hungary	-	10	-	-
	Poland	-	0.001	-	-
<b>p,p'-Diaminodiphenyl</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.008	-	-
	Italy	-	-	0.001	-
	Hungary	-	0.008	-	-
<b>2-naphthylamine</b>	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.005	-	-
	Italy	-	-	-	0.001
	Hungary	-	0.005	-	-
<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	-	-	-	-
	Austria	0.003	0.03	0.012	0.12
	Poland	-	0.03	-	-
	USA - NIOSH	-	-	-	0.02
<b>4-chloroaniline</b>	Germany (AGS)	0.06	0.3	0.12	0.6
	Austria	0.04	0.2	0.12	0.8
	Hungary	-	0.2	-	0.8
	Poland	-	3	-	10
	Romania	-	2	-	5
	Switzerland	0.04	0.2(inhalable aerosol)	-	-
<b>5-nitro-o-toluidine</b>	Austria	-	0.5	-	2
	Belgium	-	1	-	-

	Ireland	-	1	-	-
	Switzerland	0.08	0.5	-	-
	Canada - Ontario	-	1	-	-
	USA - ACGIH	-	1(inhalable fraction and vapor)	-	-
<b>o-toluidine</b>	Japan - JSOH(2024–2025)	1	4.4	-	-
	Permissible exposure standards for workers in the workplace	5	22	10	33
	European Union	0.1	0.5	-	-
	France	0.1	0.5	-	-
	Germany (AGS)	0.1	0.5	-	-
	Italy	0.1	0.5	-	-
	<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
European Union		-	0.01	-	-
France		-	0.01	-	-
Germany (AGS)		-	0.41	-	0.82
Italy		-	0.01	-	-
<b>2,6-xylidine</b>		Denmark	0.5	2.5	1
	Finland	5	25	10	50
	Ireland	0.5	2.5	-	-
	Norway	1	5	-	-
	Singapore	0.5	2.5	-	-
<b>2,4-xylidine</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	-	-
	European Union	-	0.08	-	-
	France	-	0.08	-	-

	Germany (AGS)	-	0.7	-	5.6
	Italy	-	0.08	-	-
	United Kingdom	0.01	0.08	-	-
<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	-	-
	Switzerland	0.003	0.03	-	-
	South Korea	-	0.01	-	-
<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
	France	0.1	0.5	-	-
	Austria	0.1	0.5	0.2	1
	Belgium	0.1	0.5	-	-
	Denmark	0.1	0.5	0.2	1
<b>4,4'-methylenedi-o-toluidine</b>	Austria	-	0.05	-	0.2
	Switzerland	-	0.05(inhalable aerosol)	-	-
<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>Methanol</b>	Japan - JSOH(2024-2025)	200	260	-	-

	Permissible exposure standards for workers in the workplace	200	262	250	327.5
	European Union	200	260	-	-
	France	200	260	-	-
	Germany (AGS)	100	130	200	260
	Germany (DFG)	100	130	200	260

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
<b>Biphenyl-4-ylamine</b>	USA -ACGIH	Methemoglobin( Hemoglobin in blood)	5%	During or end of shift	
<b>4,4'-methylenebis[2-chloroaniline]</b>	USA -ACGIH	Total 4,4'-Methylene bis(2-chloroaniline), with hydrolysis(Urine )	Nonquantitative	End of shift	
<b>Methanol</b>	USA -ACGIH	Methanol(Urine)	15mg/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>Biphenyl-4-ylamine</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>p,p'-Diaminodiphenyl</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>2-naphthylamine</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>3,3'-dichlorobenzidine</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>4,4'-bi-o-toluidine</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



<b>2,4,5-trimethylaniline</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>3,3'-dimethoxybenzidine</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>4-methoxy-m-phenylenediamine</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>4-methyl-m-phenylenediamine</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>4-o-tolylazo-o-toluidine</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>o-anisidine</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>4,4'-methylenedi-o-toluidine</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>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>Methanol</b>	Inhalation	No data available	No data available	130 mg/m <sup>3</sup>	130 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

◆ Predicted No Effect Concentration (PNEC)

Component	A	B	C	D	E	F	G	H
<b>o-toluidine</b>	252 ng/L	25.2 ng/L	15.5 mg/L	2.11 µg/kg sediment dw	210 ng/kg sediment dw	No hazard identified	273 ng/kg soil dw	No potential for bioaccumulation
<b>4,4'-methylenebis[2-chloroaniline]</b>	95 ng/L	9.5 ng/L	1 mg/L	35.5 µg/kg sediment dw	3.55 µg/kg sediment dw	No hazard identified	7.04 µg/kg soil dw	67 µg/kg food
<b>2,6-xylidine</b>	44 µg/L	4.4 µg/L	5.5 mg/L	291 µg/kg sediment dw	29.1 µg/kg sediment dw	No hazard identified	32.3 µg/kg soil dw	No potential for bioaccumulation

<b>4-aminoazobenzene</b>	460 ng/L	50 ng/L	470 µg/L	14.7 µg/kg sediment dw	No data available	No data available	4.91 µg/kg soil dw	No data available
<b>4,4'-methylenedianiline</b>	100 ng/L	10 ng/L	10 mg/L	375 µg/kg sediment dw	37.5 µg/kg sediment dw	No hazard identified	1.12 mg/kg soil dw	270 mg/kg food
<b>4,4'-oxydianiline</b>	1.8 µg/L	180 ng/L	10 mg/L	14.6 µg/kg sediment dw	1.46 µg/kg sediment dw	No hazard identified	1.898 µg/kg soil dw	No data available
<b>4-methyl-m-phenylenediamine</b>	5.64 µg/L	280 ng/L	1 mg/L	2.5 mg/kg sediment dw	No data available	No data available	320 µg/kg soil dw	No data available
<b>4,4'-methylenedi-ortho-toluidine</b>	6.1 µg/L	610 ng/L	900 mg/L	3.5 mg/kg sediment dw	350 µg/kg sediment dw	No data available	694 µg/kg soil dw	No data available
<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>Methanol</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

**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

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

### 8.2.3 Environmental exposure controls

Environmental exposure controls	No information available
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## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

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

### 9.2 Other information

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

Information with regard to physical hazard classes	No information available
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#### 9.2.2 Other safety characteristics

Other safety characteristics	No information available
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## 10 Stability and reactivity

### Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	In contact with oxidants, anhydrides, metals, metal oxides / KMnO <sub>4</sub> metal salts, nitro-compounds may cause a fire or explosion. In contact with N-halogen compounds may cause a potensive explosive hazardous. In contact with oxidants

	causes severe reactions, and may cause a fire or explosion.
<b>10.4 Conditions to avoid</b>	Incompatible materials, heat, flame and spark.
<b>10.5 Incompatible materials</b>	Oxidants, halogen, anhydrides, acids, metals, metal oxides, potassium permanganate, nitro-compounds and metal salts. N - halogenated compounds, sulfuric acid and strong oxidants. Oxidants, alkali metals, alkaline earth metals and aluminum.
<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

24 Mix azo dyes in acetonitrile/methanol	
<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>	Causes damage to organs(Category 1)
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met

### Acute toxicity

Component	LD <sub>50</sub> (oral)	LD <sub>50</sub> (dermal)	LC <sub>50</sub> (inhalation,4h)
<b>Biphenyl-4-ylamine</b>	500mg/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>6-methoxy-m-toluidine</b>	1450mg/kg(Rat)	No information available	No information available
<b>2,4-xylidine</b>	467mg/kg(Rat)	No information available	No information available
<b>Methanol</b>	5628mg/kg(Rat)	15800mg/kg(Rabbit)	83.867mg/L(Rat)
<b>4,4'-methylenebis[2-chloroaniline]</b>	1140mg/kg(Rat)	> 5000mg/kg(Rabbit)	No information available
<b>p,p'-Diaminodiphenyl</b>	309mg/kg(Rat)	No information available	No information available
<b>o-anisidine</b>	1150mg/kg(Rat)	No information available	No information available
<b>3,3'-dimethoxybenzidine</b>	1920mg/kg(Rat)	No information available	No information available
<b>4-chloroaniline</b>	300mg/kg(Rat)	360mg/kg(Rabbit)	2.34mg/L(Rat)
<b>4-methoxy-m-phenylenediamine</b>	460mg/kg(Rat)	No information available	No information available
<b>4-chloro-o-toluidine</b>	1058mg/kg(Rat)	No information available	No information available
<b>4,4'-methylenedianiline</b>	517mg/kg(Rat)	1000mg/kg(Rat)	No information available
<b>2-naphthylamine</b>	727mg/kg(Rat)	No information available	No information available
<b>2,6-xylidine</b>	840mg/kg(Rat)	No information available	No information available

<b>4,4'-oxydianiline</b>	725mg/kg(Rat)	No information available	No information available
<b>4,4'-thiodianiline</b>	900mg/kg(Rat)	No information available	No information available

## Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
<b>Biphenyl-4-ylamine</b>	Category 1	Category K
<b>p,p'-Diaminodiphenyl</b>	Category 1	Category K
<b>2-naphthylamine</b>	Category 1	Category K
<b>3,3'-dichlorobenzidine</b>	Category 2B	Category R
<b>4,4'-bi-o-toluidine</b>	Category 2B	Category R
<b>4-chloroaniline</b>	Category 2B	Not Listed
<b>5-nitro-o-toluidine</b>	Category 3	Not Listed
<b>o-toluidine</b>	Category 1	Category K
<b>4,4'-methylenebis[2-chloroaniline]</b>	Category 1 (Remark 1)	Category R
<b>2,6-xylydine</b>	Category 2B	Not Listed
<b>2,4-xylydine</b>	Category 3	Not Listed
<b>4-chloro-o-toluidine</b>	Category 2A	Category R
<b>4-aminoazobenzene</b>	Category 2B	Not Listed
<b>4,4'-methylenedianiline</b>	Category 2B	Category R
<b>4,4'-oxydianiline</b>	Category 2B	Category R
<b>6-methoxy-m-toluidine</b>	Category 2B	Category R
<b>4,4'-thiodianiline</b>	Category 2B	Category R
<b>2,4,5-trimethylaniline</b>	Category 3	Not Listed
<b>3,3'-dimethoxybenzidine</b>	Category 2B	Category R
<b>4-methoxy-m-phenylenediamine</b>	Category 2B	Not Listed
<b>4-methyl-m-phenylenediamine</b>	Category 2B	Category R
<b>4-o-tolylazo-o-toluidine</b>	Category 2B	Category R
<b>o-anisidine</b>	Category 2A (Remark 2)	Category R
<b>4,4'-methylenedi-o-toluidine</b>	Category 2B	Not Listed
<b>Acetonitrile</b>	Not Listed	Not Listed
<b>Methanol</b>	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

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
Biphenyl-4-ylamine	No information available
p,p'-Diaminodiphenyl	No information available
2-naphthylamine	No information available
3,3'-dichlorobenzidine	No information available
4,4'-bi-o-toluidine	No information available
4-chloroaniline	No information available
5-nitro-o-toluidine	No information available
o-toluidine	No information available
4,4'-methylenebis[2-chloroaniline]	No information available
2,6-xylydine	No information available
2,4-xylydine	No information available
4-chloro-o-toluidine	No information available
4-aminoazobenzene	No information available
4,4'-methylenedianiline	No information available
4,4'-oxydianiline	No information available
6-methoxy-m-toluidine	No information available
4,4'-thiodianiline	No information available
2,4,5-trimethylaniline	No information available
3,3'-dimethoxybenzidine	No information available
4-methoxy-m-phenylenediamine	No information available
4-methyl-m-phenylenediamine	No information available
4-o-tolylazo-o-toluidine	No information available
o-anisidine	No information available
4,4'-methylenedi-o-toluidine	No information available
Acetonitrile	No information available
Methanol	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
3,3'-dichlorobenzidine	LC <sub>50</sub> : 0.51mg/L	EC <sub>50</sub> : 1.9mg/L	ErC <sub>50</sub> : 1.4mg/L

	(96h)(Fish)	(48h)(Crustaceans)	(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>6-methoxy-m-toluidine</b>	LC <sub>50</sub> : 12.27mg/L (96h)(Fish)	No information available	No information available
<b>2,4-xylidine</b>	No information available	EC <sub>50</sub> : 9.9mg/L (48h)(Crustaceans)	ErC <sub>50</sub> : 28.6mg/L (72h)(Algae)
<b>Methanol</b>	LC <sub>50</sub> : 24000mg/L (96h)(Fish)	EC <sub>50</sub> : 24500mg/L (48h)(Crustaceans)	No information available
<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>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>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>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>3,3'-dimethoxybenzidine</b>	LC <sub>50</sub> : 26mg/L (96h)(Fish)	No information available	ErC <sub>50</sub> : 14mg/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>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-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>4,4'-methylenedi-o-toluidine</b>	LC <sub>50</sub> : 460mg/L (96h)(Fish)	No information available	No information available
<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>4,4'-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>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>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'-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)

### Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
<b>3,3'-dichlorobenzidine</b>	No information available	NOEC : 0.21mg/L(Crustaceans)	NOEC : 0.15mg/L(Algae)
<b>Acetonitrile</b>	NOEC : 102mg/L(Fish)	NOEC : >960mg/L(Crustaceans)	NOEC : 700mg/L(Algae)
<b>o-toluidine</b>	NOEC : 13mg/L(Fish)	NOEC : 0.013mg/L(Crustaceans)	NOEC : 6.4mg/L(Algae)
<b>4-chloroaniline</b>	No information available	NOEC : 0.0032mg/L(Crustaceans)	NOEC : 0.32mg/L(Algae)

<b>4,4'-methylenebis[2-chloroaniline]</b>	No information available	NOEC : 0.0095mg/L(Crustaceans)	NOEC : 0.54mg/L(Algae)
<b>4,4'-bi-o-toluidine</b>	No information available	NOEC : 0.26mg/L(Crustaceans)	NOEC : 0.45mg/L(Algae)
<b>2,6-xylydine</b>	No information available	NOEC : 2.2mg/L(Crustaceans)	NOEC : 32mg/L(Algae)
<b>2-naphthylamine</b>	No information available	NOEC : 0.014mg/L(Crustaceans)	NOEC : 0.16mg/L(Algae)
<b>4,4'-methylenedianiline</b>	No information available	NOEC : 0.0053mg/L(Crustaceans)	NOEC : 4.0mg/L(Algae)
<b>4-methyl-m-phenylenediamine</b>	No information available	NOEC : 0.52mg/L(Crustaceans)	NOEC : 1.0mg/L(Algae)
<b>4,4'-oxydianiline</b>	NOEC : 5mg/L(Fish)	No information available	NOEC : 3.9mg/L(Algae)
<b>o-anisidine</b>	NOEC : 25mg/L(Fish)	NOEC : 0.25mg/L(Crustaceans)	NOEC : 7.5mg/L(Algae)
<b>3,3'-dimethoxybenzidine</b>	No information available	No information available	NOEC : 0.58mg/L(Algae)
<b>4-aminoazobenzene</b>	No information available	NOEC : 0.0071mg/L(Crustaceans)	NOEC : 0.14mg/L(Algae)

## 12.2 Persistence and degradability

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

## 12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
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<b>Biphenyl-4-ylamine</b>	Low	Log Kow=2.8
<b>3,3'-dichlorobenzidine</b>	Medium	BCF=940
<b>4,4'-bi-o-toluidine</b>	Low	BCF=83
<b>5-nitro-o-toluidine</b>	Low	Log Kow=1.87
<b>o-toluidine</b>	Low	Log Kow=1.32
<b>4,4'-methylenebis[2-chloroaniline]</b>	Low	BCF=398
<b>2,6-xylylidine</b>	Low	BCF=96.2
<b>2,4-xylylidine</b>	Low	BCF=10
<b>4-aminoazobenzene</b>	Low	BCF=42.4
<b>4,4'-methylenedianiline</b>	Low	BCF=15
<b>4,4'-oxydianiline</b>	Low	Log Kow=1.36
<b>6-methoxy-m-toluidine</b>	Low	BCF=4.6
<b>4,4'-thiodianiline</b>	Low	Log Kow=2.18
<b>3,3'-dimethoxybenzidine</b>	Low	Log Kow=1.81
<b>4-o-tolylazo-o-toluidine</b>	Medium	Log Kow=4.2887
<b>o-anisidine</b>	Low	Log Kow=1.18
<b>4,4'-methylenedi-o-toluidine</b>	Low	Log Kow=3.2761
<b>Methanol</b>	Low	BCF=10

## 12.4 Mobility in soil

Component	log Koc	Remark
<b>Biphenyl-4-ylamine</b>	3.228	
<b>3,3'-dichlorobenzidine</b>	3.874	
<b>4,4'-bi-o-toluidine</b>	3.874	
<b>5-nitro-o-toluidine</b>	1.931	
<b>o-toluidine</b>	1.68	20 °C
<b>4,4'-methylenebis[2-chloroaniline]</b>	3.57	20 °C
<b>2,6-xylylidine</b>	2.088	
<b>2,4-xylylidine</b>	2.079	
<b>4-aminoazobenzene</b>	2.723	
<b>4,4'-methylenedianiline</b>	3.848	
<b>4,4'-oxydianiline</b>	1.66	25 °C
<b>6-methoxy-m-toluidine</b>	1.722	
<b>4,4'-thiodianiline</b>	3.695	
<b>3,3'-dimethoxybenzidine</b>	3.160	
<b>4-o-tolylazo-o-toluidine</b>	3.160	

<b>o-anisidine</b>	1.512	
<b>4,4'-methylenedi-o-toluidine</b>	3.76	20 °C
<b>Acetonitrile</b>	0.653	
<b>Methanol</b>	0.000	

## 12.5 Results of PBT and vPvB assessment

<b>Component</b>	<b>Results of PBT and vPvB assessment [according to (EC) No 1907/2006]</b>
<b>Biphenyl-4-ylamine</b>	Insufficient information, temporarily unable to evaluate
<b>p,p'-Diaminodiphenyl</b>	Insufficient information, temporarily unable to evaluate
<b>2-naphthylamine</b>	Insufficient information, temporarily unable to evaluate
<b>3,3'-dichlorobenzidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-bi-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-chloroaniline</b>	Not PBT/vPvB
<b>5-nitro-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>o-toluidine</b>	Not PBT/vPvB
<b>4,4'-methylenebis[2-chloroaniline]</b>	Not PBT/vPvB
<b>2,6-xylydine</b>	Insufficient information, temporarily unable to evaluate
<b>2,4-xylydine</b>	Insufficient information, temporarily unable to evaluate
<b>4-chloro-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-aminoazobenzene</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenedianiline</b>	Not PBT/vPvB
<b>4,4'-oxydianiline</b>	Not PBT/vPvB
<b>6-methoxy-m-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-thiodianiline</b>	Insufficient information, temporarily unable to evaluate
<b>2,4,5-trimethylaniline</b>	Insufficient information, temporarily unable to evaluate
<b>3,3'-dimethoxybenzidine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methoxy-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-methyl-m-phenylenediamine</b>	Insufficient information, temporarily unable to evaluate
<b>4-o-tolylazo-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>o-anisidine</b>	Insufficient information, temporarily unable to evaluate
<b>4,4'-methylenedi-o-toluidine</b>	Insufficient information, temporarily unable to evaluate
<b>Acetonitrile</b>	Not PBT/vPvB
<b>Methanol</b>	Not PBT/vPvB

## 12.6 Endocrine disrupting properties

<b>Component</b>	<b>Endocrine disrupting properties</b>
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<b>Biphenyl-4-ylamine</b>	No information available
<b>p,p'-Diaminodiphenyl</b>	No information available
<b>2-naphthylamine</b>	No information available
<b>3,3'-dichlorobenzidine</b>	No information available
<b>4,4'-bi-o-toluidine</b>	No information available
<b>4-chloroaniline</b>	No information available
<b>5-nitro-o-toluidine</b>	No information available
<b>o-toluidine</b>	No information available
<b>4,4'-methylenebis[2-chloroaniline]</b>	No information available
<b>2,6-xylydine</b>	No information available
<b>2,4-xylydine</b>	No information available
<b>4-chloro-o-toluidine</b>	No information available
<b>4-aminoazobenzene</b>	No information available
<b>4,4'-methylenedianiline</b>	No information available
<b>4,4'-oxydianiline</b>	No information available
<b>6-methoxy-m-toluidine</b>	No information available
<b>4,4'-thiodianiline</b>	No information available
<b>2,4,5-trimethylaniline</b>	No information available
<b>3,3'-dimethoxybenzidine</b>	No information available
<b>4-methoxy-m-phenylenediamine</b>	No information available
<b>4-methyl-m-phenylenediamine</b>	No information available
<b>4-o-tolylazo-o-toluidine</b>	No information available
<b>o-anisidine</b>	No information available
<b>4,4'-methylenedi-o-toluidine</b>	No information available
<b>Acetonitrile</b>	No information available
<b>Methanol</b>	No information available

## 12.7 Other adverse effects

No information available

## 13 Disposal considerations

### 13.1 Waste treatment methods

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

## 14 Transport information

### Label and Mark

Transporting Label	
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### 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

	<p>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.</p>
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### 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
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	√	√	√	×	×	×	×	×	√	×	×	√	√
Acetonitrile	√	√	√	√	√	√	√	√	√	√	√	√	√
Methanol	√	√	√	√	√	√	√	√	√	√	√	√	√

【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
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-xylidine	x	x	x
2,4-xylidine	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
Acetonitrile	x	x	x
Methanol	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
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'-methylenbis[2-chloroaniline]	✓	✓	✓	✓	✓	×	×	×	×
2,6-xylidine	×	×	×	✓	✓	×	×	×	×
2,4-xylidine	×	×	×	✓	✓	×	×	×	×
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	✓	×	✓	✓	✓	×	×	×	×
Acetonitrile	×	×	×	✓	✓	×	×	×	×
Methanol	×	×	✓	✓	✓	✓	×	×	×

[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
Biphenyl-4-ylamine	WGK 3	
p,p'-Diaminodiphenyl	WGK 3	
2-naphthylamine	WGK 3	
3,3'-dichlorobenzidine	WGK 3	
4-chloroaniline	WGK 3	
5-nitro-o-toluidine	WGK 3	
o-toluidine	WGK 3	
2,6-xylidine	WGK 3	
2,4-xylidine	WGK 3	
4-chloro-o-toluidine	WGK 3	
4-aminoazobenzene	WGK 3	
4,4'-methylenedianiline	WGK 3	
4,4'-oxydianiline	WGK 3	
6-methoxy-m-toluidine	WGK 3	
4-methoxy-m-phenylenediamine	WGK 3	
4-methyl-m-phenylenediamine	WGK 3	
4-o-tolylazo-o-toluidine	WGK 3	
o-anisidine	WGK 3	
4,4'-methylenedi-o-toluidine	WGK 3	
Acetonitrile	WGK 2	
Methanol	WGK 2	

- 【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
Biphenyl-4-ylamine	Chapter 5.2.7.1.1 Carcinogenic Substances The substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data. Carcinogenic substances not	

	mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>p,p'-Diaminodiphenyl</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>2-naphthylamine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>3,3'-dichlorobenzidine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4,4'-bi-o-toluidine</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> TECHNICAL INSTRUCTIONS ON AIR QUALITY CONTROL Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4-chloroaniline</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of	

	data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>5-nitro-o-toluidine</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>o-toluidine</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>4,4'-methylenebis[2-chloroaniline]</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>2,6-xylidine</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>2,4-xylidine</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>4-chloro-o-toluidine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4-aminoazobenzene</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4,4'-methylenedianiline</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>4,4'-oxydianiline</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>6-methoxy-m-toluidine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4,4'-thiodianiline</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>2,4,5-trimethylaniline</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>3,3'-dimethoxybenzidine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data.Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4-methoxy-m-phenylenediamine</b>	Chapter 5.2.7.1.1 Carcinogenic SubstancesThe substance must be assigned to the class (I, II or III) whose substances have the nearest	

	potency. We can not accomplish this evaluation due to insufficiency of data. Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4-methyl-m-phenylenediamine</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>4-o-tolylazo-o-toluidine</b>	Chapter 5.2.7.1.1 Carcinogenic Substances The substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data. Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>o-anisidine</b>	Chapter 5.2.7.1.1 Carcinogenic Substances The substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data. Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>4,4'-methylenedi-o-toluidine</b>	Chapter 5.2.7.1.1 Carcinogenic Substances The substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this evaluation due to insufficiency of data. Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
<b>Methanol</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>	

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

Component	TRGS	Remark
<b>Biphenyl-4-ylamine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>p,p'-Diaminodiphenyl</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS	

	510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>2-naphthylamine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>3,3'-dichlorobenzidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>4,4'-bi-o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>4-chloroaniline</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 TRGS 560	
<b>5-nitro-o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>4,4'-methylenebis[2-chloroaniline]</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>2,6-xylydine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>2,4-xylydine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>4-chloro-o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>4-aminoazobenzene</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>4,4'-methylenedianiline</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	

<b>4,4'-oxydianiline</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>6-methoxy-m-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>4,4'-thiodianiline</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>2,4,5-trimethylaniline</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>3,3'-dimethoxybenzidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>4-methoxy-m-phenylenediamine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 560	
<b>4-methyl-m-phenylenediamine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 560	
<b>4-o-tolylazo-o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<b>o-anisidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
<b>4,4'-methylenedi-o-toluidine</b>	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
<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>Methanol</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

Creation Date	2026/01/04
Revision Date	-
Reason for revision	-

### Reference

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

### Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC <sub>50</sub>	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD <sub>50</sub>	Lethal Dose 50%	NTP	National Toxicology Program
EC <sub>50</sub>	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC <sub>x</sub>	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
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.