Safety Data Sheet

15 Mix aniline and benzidine in methanol

Version：V2.0.0.1
Report No.：BWQ0556-2016-MSDS-EP
Creation Date：2025/12/26
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	15 Mix aniline and benzidine in methanol
Cat No.	BWQ0556-2016
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
Acute Toxicity - Inhalation	Category 3
Specific target organ toxicity - single exposure	Category 1

2.2 Label elements

Hazard pictograms	
Signal word	**Danger**

Hazard statements

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

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe gas/mist/vapour/spray.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
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+P311	IF exposed or concerned: Call a POISON CENTER/ doctor.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

Storage

P405	Store locked up.

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

◆ Disposal

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

2.3 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Methanol	Not PBT/vPvB
Aniline	Not PBT/vPvB
p,p'-Diaminodiphenyl	Insufficient information, temporarily unable to evaluate
p-toluidine	Insufficient information, temporarily unable to evaluate
o-anisidine	Insufficient information, temporarily unable to evaluate
m-toluidine	Not PBT/vPvB
o-toluidine	Not PBT/vPvB
2,4-xylidine	Insufficient information, temporarily unable to evaluate
4-nitroaniline	PBT/vPvB
3-nitroaniline	Insufficient information, temporarily unable to evaluate
4-chloroaniline	Not PBT/vPvB
2-naphthylamine	Insufficient information, temporarily unable to evaluate
2,6-xylidine	Insufficient information, temporarily unable to evaluate
3-chloroaniline	Not PBT/vPvB
3,3'-dichlorobenzidine	Insufficient information, temporarily unable to evaluate
Nitrosodiphenylamine	Not PBT/vPvB

◆ Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
Methanol	Insufficient information, temporarily unable to evaluate
Aniline	Insufficient information, temporarily unable to evaluate
p,p'-Diaminodiphenyl	Insufficient information, temporarily unable to evaluate
p-toluidine	Insufficient information, temporarily unable to evaluate
o-anisidine	Insufficient information, temporarily unable to evaluate
m-toluidine	Insufficient information, temporarily unable to evaluate
o-toluidine	Insufficient information, temporarily unable to evaluate
2,4-xylidine	Insufficient information, temporarily unable to evaluate
4-nitroaniline	Insufficient information, temporarily unable to evaluate
3-nitroaniline	Insufficient information, temporarily unable to evaluate

4-chloroaniline	Insufficient information, temporarily unable to evaluate
2-naphthylamine	Insufficient information, temporarily unable to evaluate
2,6-xylidine	Insufficient information, temporarily unable to evaluate
3-chloroaniline	Insufficient information, temporarily unable to evaluate
3,3'-dichlorobenzidine	Insufficient information, temporarily unable to evaluate
Nitrosodiphenylamine	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
Methanol CAS : 67-56-1 EC : 200-659-6 Index No. : 603-001-00-X	99.8	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%
Aniline CAS : 62-53-3 EC : 200-539-3 Index No. : 612-008-00-7	0.0063	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Sensitization - skin, Category 1, H317; Serious eye damage/irritation, Category 1, H318; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400	H372:C ≥ 1%|H373:0.2% ≤ C < 1%
p,p'-Diaminodiphenyl CAS : 92-87-5 EC : 202-199-1 Index No. : 612-042-00-2	0.0063	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%
p-toluidine CAS : 106-49-0 EC : 203-403-1 Index No. : 612-160-00-4	0.0063	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Sensitization - skin, Category 1, H317; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 2, H351; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400	-
o-anisidine CAS : 90-04-0 EC : 201-963-1 Index No. : 612-035-00-4	0.0063	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	
m-toluidine CAS : 108-44-1 EC : 203-583-1 Index No. : 612-024-00-4	0.0063	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400	-
o-toluidine CAS : 95-53-4 EC : 202-429-0 Index No. : 612-091-00-X	0.0063	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	-
2,4-xylidine CAS : 95-68-1 EC : 202-440-0 Index No. : -	0.0063	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	-
4-nitroaniline CAS : 100-01-6 EC : 202-810-1 Index No. : 612-012-00-9	0.0063	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	-
3-nitroaniline CAS : 99-09-2 EC : 202-729-1 Index No. : 612-012-00-9	0.0063	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	-
4-chloroaniline CAS : 106-47-8 EC : 203-401-0 Index No. : 612-137-00-9	0.0062	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	-
2-naphthylamine CAS : 91-59-8 EC : 202-080-4 Index No. : 612-022-00-3	0.0063	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%
2,6-xylidine CAS : 87-62-7 EC : 201-758-7 Index No. : 612-161-00-X	0.0063	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	
3-chloroaniline CAS : 108-42-9 EC : 203-581-0 Index No. : -	0.0062	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
3,3'-dichlorobenzidine CAS : 91-94-1 EC : 202-109-0 Index No. : 612-068-00-4	0.0062	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	-
Nitrosodiphenylamine CAS : 86-30-6 EC : 201-663-0 Index No. : -	0.0063	Sensitization - skin, Category 1A, H317; Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-

4 First-aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Ingestion	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
Inhalation	Fresh air, rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Use of water spray when fighting fire may be inefficient.

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.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
6	Do not touch or walk through spilled material.
7	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
8	Use personal protective equipment,do not breathe gas/mist/vapour/spray.
9	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
10	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.

4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Do not touch or cross spills.
9	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-virus suits.
10	Spray water disperses the vapor and dilutes the liquid spill.
11	Do not touch broken containers and spills before putting on appropriate protective clothing.
12	Cut off the source of the leak as much as possible.
13	Keep leaks in a ventilated place.
14	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
15	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
16	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
17	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4 Reference to other sections

1	Personal Protective Equipment advice is contained in Section 8 of the SDS.
2	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

◆ Measures to prevent fire

1	Use only non-sparking tools.
2	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
3	Use explosion proof equipment.
4	Keep away from heat/sparks/open flames/ hot surfaces.

◆ Measures to prevent aerosol and dust generation

1	Not applicable.

◆ Advice on general occupational hygiene

1	Wash hands and face after using the substances.
2	Replace the contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

7.3 Specific end use(s)

1	In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.

8 Exposure controls/personal protection

8.1 Control parameters

◆Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
Methanol	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
Aniline	Japan - JSOH(2024–2025)	1	3.8	-	-
	Permissible exposure standards for workers in the workplace	2	7.6	4	15.2
	European Union	2	7.74	5	19.35
	France	2	7.74	5	19.35
	Germany (AGS)	2	7.7	4	15.4
	Germany (DFG)	2	7.7	4	15.4
p,p'-Diaminodiphenyl	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.008	-	-
	Italy	-	-	0.001	-
	Hungary	-	0.008	-	-
p-toluidine	Permissible exposure standards for workers in the workplace	2	8.8	4	17.6
	European Union	1	4.46	2	8.92
	France	1	4.46	2	8.92
	Germany (AGS)	1	4.46	2	8.92

	Italy	1	4.46	2	8.92
	Austria	0.2	1	0.8	4
o-anisidine	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
m-toluidine	Permissible exposure standards for workers in the workplace	2	8.8	4	17.6
	Austria	2	9	4	18
	Belgium	2	8.9	-	-
	Denmark	2	9	4	18
	Hungary	-	9	-	-
	Ireland	0.2	0.9	-	-
o-toluidine	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	-	-
2,4-xylidine	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	-	-
4-nitroaniline	Japan - JSOH(2024–2025)	-	3	-	-
	Permissible exposure standards for	-	3	-	6

	workers in the workplace				
	France	-	3	-	-
	Austria	1	6	-	-
	Belgium	-	3	-	-
	Denmark	0.5	3	1	6
3-nitroaniline	Finland	1	5.7	3	17
	Latvia	-	0.1	-	-
	Poland	-	3	-	10
4-chloroaniline	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)	-	-
2-naphthylamine	Permissible exposure standards for workers in the workplace	-	-	-	-
	France	0.001	0.005	-	-
	Italy	-	-	-	0.001
	Hungary	-	0.005	-	-
2,6-xylidine	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	-	-
3-chloroaniline	Poland	-	3	-	10
3,3'-dichlorobenzidine	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	-	-

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
Methanol	USA -ACGIH	Methanol(Urine)	15mg/L	End of shift	

Aniline	SCOEL(EU)	p-aminophenol/urine	30 mg/L	0-2 h after exposure/shift	
		Aniline, with hydrolysis(Urine)	0.5mg/L	End of shift	
4-nitroaniline	USA -ACGIH	Methemoglobin(Hemoglobin in blood)	5%	During or 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)
Methanol	Inhalation	No data available	No data available	130 mg/m3	130 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Aniline	Inhalation	No data available	No data available	No data available	7.7 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
p,p'-Diaminodiphenyl	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
p-toluidine	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
o-anisidine	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
m-toluidine	Inhalation	No data available	No data available	No data available	0.164 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
o-toluidine	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
2,4-xylidine	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
4-nitroaniline	Inhalation	No data available	No data available	No data available	0.201 mg/m3
	Oral	No data available	No data available	No data available	No data available

	Dermal	No data available	No data available	No data available	No data available
3-nitroaniline	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
4-chloroaniline	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
2-naphthylamine	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
2,6-xylidine	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
3-chloroaniline	Inhalation	No data available	No data available	No data available	0.367 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
3,3'-dichlorobenzidine	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
Nitrosodiphenylamine	Inhalation	No data available	No data available	No data available	0.82 mg/m3
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Component	A	B	C	D	E	F	G	H
Methanol	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
Aniline	1.2 µg/L	120 ng/L	2 mg/L	153 µg/kg sediment dw	15.3 µg/kg sediment dw	No hazard identified	33 µg/kg soil dw	2.3 g/kg food
m-toluidine	1 µg/L	100 ng/L	20.4 mg/L	8.03 µg/kg sediment dw	800 ng/kg sediment dw	No hazard identified	1 µg/kg soil dw	1 mg/kg food
o-toluidine	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
4-nitroaniline	24 µg/L	2.4 µg/L	1 mg/L	64.247 mg/kg sediment dw	64.247 mg/kg sediment dw	No data available	25.961 mg/kg soil dw	No potential for bioaccum

								ulation
2,6-xylidine	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 bioaccum ulation
3-chloroaniline	2.94 µg/L	294 ng/L	9.9 mg/L	753.081 µg/kg sediment dw	753.081 µg/kg sediment dw	No hazard identified	331.338 µg/kg soil dw	No data available
Nitrosodiphenyla mine	1.5 µg/L	150 ng/L	No hazard identified	160 µg/kg sediment dw	16 µg/kg sediment dw	No hazard identified	109 µg/kg soil dw	No potential for bioaccum ulation

Note 1:

A: Freshwater; B: Seawater; C: Sewage treatment plant; D: Sediment (freshwater); E: Sediment (seawater); F: Air; G: Soil; H: Secondary poisoning(Hazard for Predators).

Note 2:

The PNEC values of the remaining components not shown in the product are not available yet.

8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.2.2 Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Must wear appropriate personal dust proof gas mask.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

8.2.3 Environmental exposure controls

Environmental exposure controls	No information available

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Light yellow to brownish yellow liquid
Colour	Light yellow to brownish yellow liquid
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-98 (Methanol)

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

9.2.2 Other safety characteristics

Other safety characteristics	No information available

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 causes severe reactions, and may cause a fire or explosion. In contact with oxidants, anhydrides, metals, metal oxides / KMnO4 metal salts, nitro-compounds may cause a fire or explosion.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	Oxidants, alkali metals, alkaline earth metals and aluminum. Oxidants, halogen, anhydrides, acids, metals, metal oxides, potassium permanganate, nitro-compounds and metal salts.
10.6 Hazardous decomposition products	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

15 Mix aniline and benzidine in methanol	
Skin corrosion/irritation	Based on available data, the classification criteria are not met

Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Causes damage to organs(Category 1)
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

Acute toxicity

Component	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
Nitrosodiphenylamine	1825mg/kg(Rat)	> 7940mg/kg(Rabbit)	No information available
2,4-xylidine	467mg/kg(Rat)	No information available	No information available
p,p'-Diaminodiphenyl	309mg/kg(Rat)	No information available	No information available
p-toluidine	336mg/kg(Rat)	890mg/kg(Rabbit)	No information available
o-toluidine	670mg/kg(Rat)	3260mg/kg(Rabbit)	3.778mg/L(Rat)
2-naphthylamine	727mg/kg(Rat)	No information available	No information available
4-chloroaniline	300mg/kg(Rat)	360mg/kg(Rabbit)	2.34mg/L(Rat)
2,6-xylidine	840mg/kg(Rat)	No information available	No information available
o-anisidine	1150mg/kg(Rat)	No information available	No information available
Aniline	250mg/kg(Rat)	837mg/kg(Rabbit)	No information available
3-chloroaniline	256mg/kg(Rat)	250mg/kg(Rat)	0.55mg/L(Mouse)
Methanol	5628mg/kg(Rat)	15800mg/kg(Rabbit)	83.867mg/L(Rat)
3-nitroaniline	535mg/kg(Rat)	No information available	No information available
m-toluidine	450mg/kg(Rat)	3250mg/kg(Rabbit)	No information available
4-nitroaniline	750mg/kg(Rat)	No information available	No information available

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Methanol	Not Listed	Not Listed
Aniline	Category 2A(Remark 1)	Not Listed
p,p'-Diaminodiphenyl	Category 1	Category K
p-toluidine	Not Listed	Not Listed
o-anisidine	Category 2A(Remark 2)	Category R
m-toluidine	Not Listed	Not Listed
o-toluidine	Category 1	Category K
2,4-xylidine	Category 3	Not Listed
4-nitroaniline	Not Listed	Not Listed
3-nitroaniline	Not Listed	Not Listed

4-chloroaniline	Category 2B	Not Listed
2-naphthylamine	Category 1	Category K
2,6-xylidine	Category 2B	Not Listed
3-chloroaniline	Not Listed	Not Listed
3,3'-dichlorobenzidine	Category 2B	Category R
Nitrosodiphenylamine	Category 3	Not Listed

Remark 1: see also Aniline hydrochloride; Remark 2: see also ortho-Anisidine hydrochloride

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
Methanol	No information available
Aniline	No information available
p,p'-Diaminodiphenyl	No information available
p-toluidine	No information available
o-anisidine	No information available
m-toluidine	No information available
o-toluidine	No information available
2,4-xylidine	No information available
4-nitroaniline	No information available
3-nitroaniline	No information available
4-chloroaniline	No information available
2-naphthylamine	No information available
2,6-xylidine	No information available
3-chloroaniline	No information available
3,3'-dichlorobenzidine	No information available
Nitrosodiphenylamine	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
Nitrosodiphenylamine	LC_{50} : 5.8mg/L (96h)(Fish)	EC_{50} : 10mg/L (48h)(Crustaceans)	ErC_{50} : >3.1mg/L (72h)(Algae)
2,4-xylidine	No information available	EC_{50} : 9.9mg/L (48h)(Crustaceans)	ErC_{50} : 28.6mg/L (72h)(Algae)

p,p'-Diaminodiphenyl	LC_{50} : 5.88mg/L (96h)(Fish)	EC_{50} : 0.6mg/L (48h)(Crustaceans)	No information available
p-toluidine	LC_{50} :120mg/L (96h)(Fish)	EC_{50} : 1.3mg/L (48h)(Crustaceans)	ErC_{50} : 24mg/L (72h)(Algae)
o-toluidine	LC_{50} : 81.3mg/L (96h)(Fish)	EC_{50} : 16mg/L (48h)(Crustaceans)	ErC_{50} : 29.4mg/L (96h)(Algae)
3,3'-dichlorobenzidine	LC_{50} : 0.51mg/L (96h)(Fish)	EC_{50} : 1.9mg/L (48h)(Crustaceans)	ErC_{50} : 1.4mg/L (72h)(Algae)
2-naphthylamine	LC_{50} : 3.9mg/L (96h)(Fish)	EC_{50} : 0.84mg/L (48h)(Crustaceans)	ErC_{50} : 0.50mg/L (72h)(Algae)
4-chloroaniline	LC_{50} : 5.8mg/L (96h)(Fish)	EC_{50} : 0.31mg/L (48h)(Crustaceans)	ErC_{50} : 2.6mg/L (96h)(Algae)
2,6-xylidine	LC_{50} :>98mg/L (96h)(Fish)	EC_{50} : 20mg/L (48h)(Crustaceans)	ErC_{50} : >100mg/L (72h)(Algae)
o-anisidine	LC_{50} :200mg/L (96h)(Fish)	EC_{50} : 23mg/L (48h)(Crustaceans)	ErC_{50} : >30mg/L (72h)(Algae)
Aniline	LC_{50} : 27mg/L (96h)(Fish)	EC_{50} : 0.32mg/L (48h)(Crustaceans)	ErC_{50} : 20mg/L (96h)(Algae)
3-chloroaniline	LC_{50} : 8.8mg/L (96h)(Fish)	EC_{50} : 0.35mg/L (48h)(Crustaceans)	ErC_{50} : 19mg/L (72h)(Algae)
Methanol	LC_{50} : 24000mg/L (96h)(Fish)	EC_{50} : 24500mg/L (48h)(Crustaceans)	No information available
3-nitroaniline	LC_{50} : 90mg/L (96h)(Fish)	EC_{50} : 9.1mg/L (48h)(Crustaceans)	ErC_{50} : 43mg/L (72h)(Algae)
m-toluidine	LC_{50} : 36.3mg/L (96h)(Fish)	No information available	ErC_{50} : 44mg/L (96h)(Algae)
4-nitroaniline	LC_{50} : 85mg/L (96h)(Fish)	EC_{50} : 22mg/L (48h)(Crustaceans)	ErC_{50} : 43mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Nitrosodiphenylamine	NOEC : 0.4mg/L(Fish)	NOEC : 0.075mg/L(Crustaceans)	NOEC : 0.58mg/L(Algae)
p-toluidine	NOEC : 13mg/L(Fish)	NOEC : 0.011mg/L(Crustaceans)	NOEC : 3.1mg/L(Algae)
o-toluidine	NOEC : 13mg/L(Fish)	NOEC : 0.013mg/L(Crustaceans)	NOEC : 6.4mg/L(Algae)
3,3'-dichlorobenzidine	No information available	NOEC : 0.21mg/L(Crustaceans)	NOEC : 0.15mg/L(Algae)
2-naphthylamine	No information available	NOEC : 0.014mg/L(Crustaceans)	NOEC : 0.16mg/L(Algae)
4-chloroaniline	No information available	NOEC : 0.0032mg/L(Crustaceans)	NOEC : 0.32mg/L(Algae)
2,6-xylidine	No information available	NOEC : 2.2mg/L(Crustaceans)	NOEC : 32mg/L(Algae)
o-anisidine	NOEC : 25mg/L(Fish)	NOEC : 0.25mg/L(Crustaceans)	NOEC : 7.5mg/L(Algae)
Aniline	NOEC : 1.9mg/L(Fish)	NOEC : 0.0063mg/L(Crustaceans)	NOEC : 3.7mg/L(Algae)
3-chloroaniline	NOEC : 1mg/L(Fish)	NOEC : 0.0032mg/L(Crustaceans)	NOEC : 1.0mg/L(Algae)

3-nitroaniline	No information available	NOEC : 0.12mg/L(Crustaceans)	NOEC : 6.3mg/L(Algae)
m-toluidine	NOEC : 0.598mg/L(Fish)	No information available	No information available
4-nitroaniline	No information available	No information available	NOEC : 0.94mg/L(Algae)

12.2 Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Methanol	Low	Low
p-toluidine	High	High
o-anisidine	High(Half-life = 360 days)	Low(Half-life = 0.22 days)
m-toluidine	High	High
o-toluidine	Low(Half-life = 14 days)	Low(Half-life = 0.16 days)
2,4-xylidine	High	High
4-nitroaniline	High	High
3-nitroaniline	High	High
2,6-xylidine	High(Half-life = 360 days)	Low(Half-life = 0.14 days)
3-chloroaniline	High	High
3,3'-dichlorobenzidine	High(Half-life = 360 days)	Low(Half-life = 0.38 days)
Nitrosodiphenylamine	Media(Half-life = 68 days)	Low(Half-life = 0.29 days)

12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Methanol	Low	BCF=10
p-toluidine	Low	BCF=13
o-anisidine	Low	Log Kow=1.18
m-toluidine	Low	Log Kow=1.40
o-toluidine	Low	Log Kow=1.32
2,4-xylidine	Low	BCF=10
4-nitroaniline	Low	BCF=10
3-nitroaniline	Low	BCF=3
2,6-xylidine	Low	BCF=96.2
3-chloroaniline	Low	Log Kow=1.88
3,3'-dichlorobenzidine	Medium	BCF=940
Nitrosodiphenylamine	Low	BCF=42

12.4 Mobility in soil

Component	log Koc	Remark
Methanol	0.000	
p-toluidine	1.861	

o-anisidine	1.512	
m-toluidine	1.65	20 ℃
o-toluidine	1.68	20 ℃
2,4-xylidine	2.079	
4-nitroaniline	1.94	20 ℃
3-nitroaniline	1.713	
2,6-xylidine	2.088	
3-chloroaniline	2.30	20 ℃
3,3'-dichlorobenzidine	3.874	
Nitrosodiphenylamine	3.02	25 ℃， pH=6.5

12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Methanol	Not PBT/vPvB
Aniline	Not PBT/vPvB
p,p'-Diaminodiphenyl	Insufficient information, temporarily unable to evaluate
p-toluidine	Insufficient information, temporarily unable to evaluate
o-anisidine	Insufficient information, temporarily unable to evaluate
m-toluidine	Not PBT/vPvB
o-toluidine	Not PBT/vPvB
2,4-xylidine	Insufficient information, temporarily unable to evaluate
4-nitroaniline	PBT/vPvB
3-nitroaniline	Insufficient information, temporarily unable to evaluate
4-chloroaniline	Not PBT/vPvB
2-naphthylamine	Insufficient information, temporarily unable to evaluate
2,6-xylidine	Insufficient information, temporarily unable to evaluate
3-chloroaniline	Not PBT/vPvB
3,3'-dichlorobenzidine	Insufficient information, temporarily unable to evaluate
Nitrosodiphenylamine	Not PBT/vPvB

12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
Methanol	No information available
Aniline	No information available
p,p'-Diaminodiphenyl	No information available
p-toluidine	No information available
o-anisidine	No information available
m-toluidine	No information available

o-toluidine	No information available
2,4-xylidine	No information available
4-nitroaniline	No information available
3-nitroaniline	No information available
4-chloroaniline	No information available
2-naphthylamine	No information available
2,6-xylidine	No information available
3-chloroaniline	No information available
3,3'-dichlorobenzidine	No information available
Nitrosodiphenylamine	No information available

12.7 Other adverse effects

	No information available

13 Disposal considerations

13.1 Waste treatment methods

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

14 Transport information

Label and Mark

Transporting Label	

IMDG-CODE

14.1 UN number	1230
14.2 UN proper shipping name	METHANOL
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	1230
14.2 UN proper shipping name	METHANOL
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	1230
14.2 UN proper shipping name	METHANOL
14.3 Transport hazard class	3+6.1
14.4 Packing group	Ⅱ
14.5 Environmental hazards (Yes or no)	No

Special precautions for user

	Transit should be anti-exposure, rain, high temperature. Strictly prohibited shipping or transportation with acids, alkalis, oxidants, food and food additives etc. Shipment of the goods vehicle exhaust pipe must be equipped with fire retardant devices, prohibit using mechanical equipment and tools of which easy to produce sparks. Transit should be anti-exposure, anti-rain, anti-high temperature. Transportation used tank (tank) cars should be grounded chain, tank can be installed to reduce the partition hole static electricity shocks. Strictly prohibited shipping or transportation with oxidants, acids, food and food additives etc. When bulk transport, Prohibit the use of cement or wooden boats. Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.

Maritime transport in bulk according to IMO instruments

◆Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available

◆Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available

◆Transport in bulk in accordance with the IGC Code

	Not Available

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Methanol	√	√	√	√	√	√	√	√	√	√	√	√	√
Aniline	√	√	√	√	√	√	√	√	√	√	√	√	√
p,p'-Diaminodiphenyl	√	√	√	×	√	√	×	√	×	×	√	√	√
p-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
o-anisidine	√	√	√	√	√	√	√	√	√	×	√	√	√
m-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
o-toluidine	√	√	√	√	√	√	√	√	√	×	√	√	√
2,4-xylidine	√	√	√	×	√	√	√	√	√	×	√	√	√

4-nitroaniline	√	√	√	√	√	√	√	√	√	√	√	√	√
3-nitroaniline	√	√	√	√	√	√	√	√	√	×	√	√	√
4-chloroaniline	√	√	√	√	√	√	√	√	√	×	√	√	√
2-naphthylamine	√	√	×	√	√	√	√	×	×	×	√	√	√
2,6-xylidine	√	√	√	√	√	√	√	√	√	×	√	√	√
3-chloroaniline	√	√	√	√	√	√	√	√	√	×	√	√	√
3,3'-dichlorobenzidine	√	√	√	×	√	√	√	√	√	√	√	√	√
Nitrosodiphenylamine	√	√	√	√	√	×	√	√	√	√	√	√	√

【A】 China Inventory of Existing Chemical Substances(IECSC)
【B】 European Inventory of Existing Commercial Chemical Substances(EC inventory)
【C】 United States Toxic Substances Control Act Inventory(TSCA)
【D】 Canadian Domestic Substances List(DSL)
【E】 New Zealand Inventory of Chemicals(NZIoC)
【F】 Philippines Inventory of Chemicals and Chemical Substances(PICCS)
【G】 Korea Existing Chemicals Inventory(KECL)
【H】 Australian. Inventory of Industrial Chemical (AIICS)
【I】 Japan Inventory of Existing & New Chemical Substances(ENCS)
【J】 Thailand Existing Chemicals Inventory(TECI)
【K】 Mexico National Inventory of Chemical Substances (INSQ)
【L】 Russia Inventory of Existing Substances (DRAFT)
【M】 Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
Methanol	×	×	×
Aniline	×	×	×
p,p'-Diaminodiphenyl	×	×	×
p-toluidine	×	×	×
o-anisidine	×	×	×
m-toluidine	×	×	×
o-toluidine	×	×	×
2,4-xylidine	×	×	×
4-nitroaniline	×	×	×
3-nitroaniline	×	×	×
4-chloroaniline	×	×	×
2-naphthylamine	×	×	×
2,6-xylidine	×	×	×
3-chloroaniline	×	×	×
3,3'-dichlorobenzidine	×	×	×
Nitrosodiphenylamine	×	×	×

【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
Methanol	×	×	√	√	√	√	×	×	×
Aniline	×	×	×	√	√	×	×	×	×
p,p'-Diaminodiphenyl	×	×	√	√	×	×	×	×	×
p-toluidine	×	×	×	√	√	×	×	×	×
o-anisidine	√	×	√	√	√	×	×	×	×
m-toluidine	×	×	×	√	√	×	×	×	×
o-toluidine	√	×	√	√	√	×	×	×	×
2,4-xylidine	×	×	×	√	√	×	×	×	×
4-nitroaniline	×	×	×	√	√	×	×	×	×
3-nitroaniline	×	×	×	√	√	×	×	×	×
4-chloroaniline	×	×	√	√	√	×	×	×	×
2-naphthylamine	×	×	√	√	×	×	×	×	×
2,6-xylidine	×	×	×	√	√	×	×	×	×
3-chloroaniline	×	×	×	√	√	×	×	×	×
3,3'-dichlorobenzidine	×	×	√	√	×	×	×	×	×
Nitrosodiphenylamine	×	×	×	√	√	×	×	×	×

[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.
"×" No data or not included in the regulations.

German water hazard class(WGK)

Component	WGK	Remark
Methanol	WGK 2	
Aniline	WGK 3	
p,p'-Diaminodiphenyl	WGK 3	
p-toluidine	WGK 3	
o-anisidine	WGK 3	
m-toluidine	WGK 3	
o-toluidine	WGK 3	
2,4-xylidine	WGK 3	

4-nitroaniline	WGK 3	
3-nitroaniline	WGK 3	
4-chloroaniline	WGK 3	
2-naphthylamine	WGK 3	
2,6-xylidine	WGK 3	
3-chloroaniline	WGK 2	
3,3'-dichlorobenzidine	WGK 3	
Nitrosodiphenylamine	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
Methanol	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/m³	
Aniline	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/m³	
p,p'-Diaminodiphenyl	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.	
p-toluidine	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/m³	
o-anisidine	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.	
m-toluidine	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/m³	
o-toluidine	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/m³	
2,4-xylidine	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/m³	
4-nitroaniline	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/m³	
3-nitroaniline	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/m³	
4-chloroaniline	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.	
2-naphthylamine	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.	
2,6-xylidine	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/m³	
3-chloroaniline	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/m³	
3,3'-dichlorobenzidine	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.	
Nitrosodiphenylamine	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/m³	

German technical rules for hazardous substances(TRGS)

Component	TRGS	Remark
Methanol	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	
Aniline	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
p,p'-Diaminodiphenyl	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	
p-toluidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
o-anisidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
m-toluidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
o-toluidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 402|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
2,4-xylidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
4-nitroaniline	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS 724	
3-nitroaniline	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 720|TRGS 721|TRGS 722|TRGS 723|TRGS 724	
4-chloroaniline	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	
2-naphthylamine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 410|TRGS 500|TRGS 509|TRGS 510|TRGS 800|TRGS 560	
2,6-xylidine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
3-chloroaniline	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	
3,3'-dichlorobenzidine	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	
Nitrosodiphenylamine	TRGS 201|TRGS 400|TRGS 555|TRGS 600|TRGS 401|TRGS 500|TRGS 509|TRGS 510|TRGS 800	

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	2025/12/26
Revision Date	-
Reason for revision	-

Reference

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

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC_{50}	Lethal Concentration 50%	NFPA	National Fire Protection Association

LD_{50}	Lethal Dose 50%	NTP	National Toxicology Program
EC_{50}	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC_X	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P_{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

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.