

Chloroanilines Mix (25C) standard solution

Revision: 20.01.2026

Product code: AC18.22326

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet**Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda
Street: Rua de Júlio Dinis 676 7º
Place: N-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV
Street: Industriezone "De Arend" 2
Place: B-8210 Zedelgem
Telephone: +32 50 28 83 20
E-mail: info.be@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Responsible Department: AnalytiChem:
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333
+44 20 3807 3798 (CHEMTREC)

1.4. Emergency telephone number:**Further Information**

No data available

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SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225
Carc. 1A; H350
Acute Tox. 3; H331
Acute Tox. 3; H311
Acute Tox. 3; H301
STOT SE 1; H370
STOT RE 2; H373
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

methanol
4-chloroaniline
3,3'-dichlorobenzidine
benzidine
4-chloro-o-toluidine
4-methyl-m-phenylene diamine
4,4'-diaminodiphenylmethane
aniline

Signal word:

Danger

Pictograms:**Hazard statements**

H225	Highly flammable liquid and vapour.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H350	May cause cancer.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
EUH208	Contains 4-chloroaniline, 3-Chloroaniline, 2,3-dichloroaniline, 2,5-dichloroaniline, 2,6-dichloroaniline, 2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene, 3-Chloro-2-methylaniline, 3,3'-dichlorobenzidine, 3,4-dichloroaniline, 4-methyl-m-phenylene diamine, 4,4'-diaminodiphenylmethane, aniline. May produce an allergic reaction.

Precautionary statements

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours/spray.
P280	Wear protective gloves/protective clothing and eye protection/face protection.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P403+P235	Store in a well-ventilated place. Keep cool.

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Special labelling

Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
67-56-1	methanol			90 - < 95 %
	200-659-6	603-001-00-X	01-2119433307-44	
	Flam. Liq. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 1; H225 H331 H311 H301 H370			
106-47-8	4-chloroaniline			< 1 %
	203-401-0	612-137-00-9		
	Carc. 1B, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H350 H331 H311 H301 H317 H400 H410			
108-42-9	3-Chloroaniline			< 1 %
	203-581-0	612-010-00-8		
	Acute Tox. 2, Acute Tox. 3, Acute Tox. 3, Eye Irrit. 2, Skin Sens. 1B, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H330 H311 H301 H319 H317 H373 H400 H410			
95-51-2	2-Chloroaniline			< 1 %
	202-426-4	612-010-00-8		
	Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Irrit. 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H341 H331 H311 H301 H319 H373 H400 H410			
554-00-7	2,4-dichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, STOT SE 1, STOT RE 1, Aquatic Chronic 2; H331 H311 H302 H370 H372 H411			
608-27-5	2,3-dichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Irrit. 2, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H315 H317 H373 H400 H410			
95-82-9	2,5-dichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1, Skin Sens. 1, STOT SE 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H318 H317 H371 H373 H400 H410			
626-43-7	3,5-dichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H371 H373 H400 H410			
608-31-1	2,6-dichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H317 H373 H400 H410			
634-93-5	2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene			< 1 %
	Acute Tox. 3, Acute Tox. 3, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H317 H373 H400 H410			
636-30-6	2,4,5-trichloroaniline; 1-amino-2,4,5-trichlorobenzene			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H373 H400 H410			
634-67-3	2,3,4-Trichloroaniline			< 1 %
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H373 H400 H410			
87-60-5	3-Chloro-2-methylaniline			< 1 %
	Acute Tox. 4, Skin Corr. 1B, Resp. Sens. 1; H302 H314 H334			
87-63-8	2-Chloro-6-methylaniline			< 1 %

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	Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Chronic 1; H341 H331 H311 H301 H373 H410		
91-94-1	3,3'-dichlorobenzidine		< 1 %
	202-109-0	612-068-00-4	
	Carc. 1B, Acute Tox. 4, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H350 H312 H317 H400 H410		
92-87-5	benzidine		< 1 %
	202-199-1	612-042-00-2	
	Carc. 1A, Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1; H350 H302 H400 H410		
95-69-2	4-chloro-o-toluidine		< 1 %
	202-441-6	612-196-00-0	
	Carc. 1B, Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Aquatic Acute 1, Aquatic Chronic 1; H350 H341 H331 H311 H301 H400 H410		
95-76-1	3,4-dichloroaniline		< 1 %
	202-448-4	612-202-00-1	
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H331 H311 H301 H318 H317 H400 H410		
95-80-7	4-methyl-m-phenylene diamine		< 1 %
	202-453-1	612-099-00-3	
	Carc. 1B, Muta. 2, Repr. 2, Acute Tox. 3, Acute Tox. 4, Skin Sens. 1, STOT RE 2, Aquatic Chronic 2; H350 H341 H361f H301 H312 H317 H373 H411		
101-77-9	4,4'-diaminodiphenylmethane		< 1 %
	202-974-4	612-051-00-1	
	Carc. 1B, Muta. 2, Skin Sens. 1, STOT SE 1, STOT RE 2, Aquatic Chronic 2; H350 H341 H317 H370 H373 H411		
62-53-3	aniline		< 1 %
	200-539-3	612-008-00-7	01-2119451454-41
	Carc. 2, Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H351 H341 H331 H311 H301 H318 H317 H372 H400 H410		

Full text of H and EUH statements: see section 16.

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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
67-56-1	200-659-6	methanol	90 - < 95 %
		inhalation: LC50 = 128,2 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: LD50 = 6000 mg/kg STOT SE 1; H370: >= 10 - 100 STOT SE 2; H371: >= 3 - < 10	
106-47-8	203-401-0	4-chloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
108-42-9	203-581-0	3-Chloroaniline	< 1 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
95-51-2	202-426-4	2-Chloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
554-00-7		2,4-dichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 500 mg/kg	
608-27-5		2,3-dichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
95-82-9		2,5-dichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
626-43-7		3,5-dichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
608-31-1		2,6-dichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
634-93-5		2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg	
636-30-6		2,4,5-trichloroaniline; 1-amino-2,4,5-trichlorobenzene	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
634-67-3		2,3,4-Trichloroaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
87-60-5		3-Chloro-2-methylaniline	< 1 %
		oral: ATE = 500 mg/kg	
87-63-8		2-Chloro-6-methylaniline	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
91-94-1	202-109-0	3,3'-dichlorobenzidine	< 1 %
		dermal: ATE = 1100 mg/kg	
92-87-5	202-199-1	benzidine	< 1 %
		oral: ATE = 500 mg/kg Carc. 1A; H350: >= 0,01 - 100	
95-69-2	202-441-6	4-chloro-o-toluidine	< 1 %

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	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg		
95-76-1	202-448-4	3,4-dichloroaniline	< 1 %
	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg		
95-80-7	202-453-1	4-methyl-m-phenylene diamine	< 1 %
	dermal: ATE = 1100 mg/kg; oral: ATE = 100 mg/kg		
62-53-3	200-539-3	aniline	< 1 %
	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 1316 mg/kg; oral: LD50 = 442 mg/kg STOT RE 1; H372: >= 1 - 100 STOT RE 2; H373: >= 0,2 - < 1		

Further Information

No data available

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection!

After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

Call a physician immediately.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

After ingestion

Provide fresh air.

Call a physician immediately.

Notes for the doctor : Methanol

4.2. Most important symptoms and effects, both acute and delayed

Irritant, Dizziness

Dizziness, Anaesthetic state

Agitation, Spasms

Inebriation, Vomiting

Headache, Impairment of vision

Repeated exposure may cause skin dryness or cracking.

Allergic reactions

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

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Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids

Hazardous combustion products

In case of fire may be liberated: Carbon dioxide, Carbon monoxide

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Beware of reignition.

Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Wear full chemical protective clothing.

In case of fire and/or explosion do not breathe fumes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.

Move undamaged containers from immediate hazard area if it can be done safely.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

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Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Avoid exposure - obtain special instructions before use.
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.
Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions

Keep cool. Protect from sunlight.

7.3. Specific end use(s)

Laboratory chemicals
Only for laboratory and analysis purposes.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
101-77-9	4,4'-Methylenedianiline	0.01	0.08		TWA (8 h)	WEL
62-53-3	Aniline	1	4		TWA (8 h)	WEL
67-56-1	Methanol	200	266		TWA (8 h)	WEL
		250	333		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
101-77-9	4,4'-Methylenedianiline (MDA)	total MDA (creatinine)	50 µmol/mol	urine	Post shift for inhalation and pre-shift next day for dermal exposure

DNEL/DMEL values

CAS No	Substance	DNEL type	Exposure route	Effect	Value
67-56-1	methanol	Consumer DNEL, acute	inhalation	systemic	50 mg/m ³
		Worker DNEL, long-term	inhalation	systemic	260 mg/m ³
		Worker DNEL, acute	inhalation	systemic	260 mg/m ³
		Worker DNEL, long-term	inhalation	local	260 mg/m ³
		Worker DNEL, acute	inhalation	local	260 mg/m ³
		Worker DNEL, long-term	dermal	systemic	40 mg/kg bw/day
		Worker DNEL, acute	dermal	systemic	40 mg/kg bw/day
		Consumer DNEL, long-term	inhalation	systemic	50 mg/m ³
		Consumer DNEL, long-term	inhalation	local	50 mg/m ³
		Consumer DNEL, acute	inhalation	local	50 mg/m ³
		Consumer DNEL, long-term	dermal	systemic	8 mg/kg bw/day
		Consumer DNEL, acute	dermal	systemic	8 mg/kg bw/day
		Consumer DNEL, long-term	oral	systemic	8 mg/kg bw/day
		Consumer DNEL, acute	oral	systemic	8 mg/kg bw/day
62-53-3	aniline	Worker DNEL, long-term	inhalation	systemic	7,7 mg/m ³
		Worker DNEL, acute	inhalation	systemic	15,4 mg/m ³
		Worker DNEL, long-term	dermal	systemic	2 mg/kg bw/day
		Worker DNEL, acute	dermal	systemic	4 mg/kg bw/day

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PNEC values

CAS No	Substance	
Environmental compartment		Value
67-56-1	methanol	
Freshwater		20,8 mg/l
Freshwater (intermittent releases)		1540 mg/l
Marine water		2,08 mg/l
Freshwater sediment		77 mg/kg
Marine sediment		7,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		100 mg/kg
62-53-3	aniline	
Freshwater		0,001 mg/l
Marine water		0 mg/l
Freshwater sediment		0,153 mg/kg
Marine sediment		0,015 mg/kg
Secondary poisoning		2300 mg/kg
Micro-organisms in sewage treatment plants (STP)		2 mg/l
Soil		0,033 mg/kg

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Hand protection

Tested protective gloves must be worn

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing and wash it before reuse.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

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Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	clear
Odour:	like: Methanol
Odour threshold:	No data available
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	~65 °C
Flammability:	No data available
Lower explosion limits:	~5.5
Upper explosion limits:	~44
Flash point:	~10 °C
Auto-ignition temperature:	~420 °C
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic:	No data available
Water solubility:	No data available
Solubility in other solvents	No data available
not determined	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	~128 hPa
(at 20 °C)	
Vapour pressure:	No data available
(at 50 °C)	
Density:	No data available
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours can form explosive mixtures with air.

Sustained combustibility:

Sustained combustibility

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

not determined

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available

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Softening point: No data available
Pour point: No data available
No data available:
Viscosity / dynamic: No data available
Flow time: No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Highly flammable.
Vapours can form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent, Nitrogen oxides (NOx), Potassium chlorate, peroxides, for example hydrogen peroxide, Nitric acid, sulphuric acid, sodium hypochlorite, Acid halogen, Acetic anhydride, Maleic anhydride, Reducing agent, Acid, Bromine, Chlorine, Chloroform, Fluorine, Alkali metals, Alkaline earth metal;

10.4. Conditions to avoid

Vapours can form explosive mixtures with air.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Plastic articles
Zinc

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

Acute toxicity

Toxic if inhaled.
Toxic in contact with skin.
Toxic if swallowed.
Irritation to respiratory tract

ATEmix calculated

ATE (oral) 102,6 mg/kg; ATE (dermal) 306,9 mg/kg

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
67-56-1	methanol				
	oral	LD50 6000 mg/kg	Monkey	Amer J Ophthalmol 40: 76-83 (cited in DG	Determination of the acute toxicity of t
	dermal	ATE 300 mg/kg			
	inhalation (4 h) vapour	LC50 128,2 mg/l	Rat	Study report (1980)	Study performed according to internal co
	inhalation dust/mist	ATE 0,5 mg/l			
106-47-8	4-chloroaniline				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
108-42-9	3-Chloroaniline				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
95-51-2	2-Chloroaniline				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
554-00-7	2,4-dichloroaniline				
	oral	ATE 500 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
608-27-5	2,3-dichloroaniline				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
95-82-9	2,5-dichloroaniline				

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	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
626-43-7	3,5-dichloroaniline					
	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
608-31-1	2,6-dichloroaniline					
	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
634-93-5	2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene					
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
636-30-6	2,4,5-trichloroaniline; 1-amino-2,4,5-trichlorobenzene					
	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
634-67-3	2,3,4-Trichloroaniline					
	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
87-60-5	3-Chloro-2-methylaniline					
	oral	ATE mg/kg	500			
87-63-8	2-Chloro-6-methylaniline					
	oral	ATE mg/kg	100			
	dermal	ATE mg/kg	300			

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	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
91-94-1	3,3'-dichlorobenzidine					
	dermal	ATE	1100 mg/kg			
92-87-5	benzidine					
	oral	ATE	500 mg/kg			
95-69-2	4-chloro-o-toluidine					
	oral	ATE	100 mg/kg			
	dermal	ATE	300 mg/kg			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
95-76-1	3,4-dichloroaniline					
	oral	ATE	100 mg/kg			
	dermal	ATE	300 mg/kg			
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			
95-80-7	4-methyl-m-phenylene diamine					
	oral	ATE	100 mg/kg			
	dermal	ATE	1100 mg/kg			
62-53-3	aniline					
	oral	LD50	442 mg/kg	Rat	Study report (1969)	5 doses, 5 male rats per dose, observati
	dermal	LD50	1316 mg/kg	guinea pig, rabbit	Toxicology and Applied Pharmacology 7, 5	other: 21 CFR 191.10
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Has degreasing effect on the skin.

Sensitising effects

Based on available data, the classification criteria are not met.

Contains 4-chloroaniline, 3-Chloroaniline, 2,3-dichloroaniline, 2,5-dichloroaniline, 2,6-dichloroaniline, 2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene, 3-Chloro-2-methylaniline, 3,3'-dichlorobenzidine, 3,4-dichloroaniline, 4-methyl-m-phenylene diamine, 4,4'-diaminodiphenylmethane, aniline. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

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May cause cancer. (4-chloroaniline; 3,3'-dichlorobenzidine; benzidine; 4-chloro-o-toluidine; 4-methyl-m-phenylene diamine; 4,4'-diaminodiphenylmethane)

Germ cell mutagenicity: 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. (methanol)
eyes, central nervous system

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (aniline)

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards**Endocrine disrupting properties**

There are no data available on the mixture itself.

Other information

Irritation to respiratory tract
Repeated exposure may cause skin dryness or cracking.
Causes damage to organs.
Organs affected:
Liver and kidney damage
eyes
heart
Irreversible damage to the optic nerve.

Further information

Irritant, Dizziness, Dizziness, Anaesthetic state, Agitation, Spasms, Inebriation, Vomiting, Headache,
Impairment of vision
Repeated exposure may cause skin dryness or cracking.
Symptoms may be delayed.
Other dangerous properties can not be excluded.

SECTION 12: Ecological information**12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
67-56-1	methanol					
	Acute fish toxicity	LC50 15400 mg/l	96 h	Lepomis macrochirus	Bulletin of Environmental Contamination	other: EPA-660/3-75-00 9, 1975
	Acute algae toxicity	ErC50 ca. 22000 mg/l	96 h	Pseudokirchneriella subcapitata	Ecotoxicology and Environmental Safety 7	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 10000 mg/l	48 h	Daphnia magna	Water Research 23(4): 495-499 (1989)	other: DIN 38412 Teil 11
	Fish toxicity	NOEC 446,7 mg/l	28 d	Pimephales promelas	SAR and QSAR in Environmental Research,	Calculation performed with ECOSAR
	Crustacea toxicity	NOEC 208 mg/l	21 d	Daphnia magna	OECD QSAR Toolbox Report (2013)	Toxicity of the target chemical is predi
62-53-3	aniline					
	Acute fish toxicity	LC50 36,2 mg/l	96 h	Oncorhynchus mykiss	Environ Toxicol Chem 3: 243-254. (1984)	Continuous flow within 96 h
	Acute algae toxicity	ErC50 175 mg/l	72 h	Chlorella pyrenoidosa	Aquat Toxicol 46(1): 1-10 (1999)	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,16 mg/l	48 h	Daphnia magna	Study report (1998)	other: EPA Daphnia acute toxicity test.
	Fish toxicity	NOEC 0,39 mg/l	32 d	Pimephales promelas	Study report (1991)	Early life stage test, no further inform
	Crustacea toxicity	NOEC 0,016 mg/l	21 d	Daphnia magna	Study report (1989)	other: 21-day Reproduction Test acc. to
	Acute bacteria toxicity	EC50 65,93 mg/l ()	0,5 h	Photobacterium phosphoreum	REACH Registration Dossier	Method: other: Microtox Test

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-56-1	methanol	-0,77
62-53-3	aniline	0,91

BCF

CAS No	Chemical name	BCF	Species	Source
67-56-1	methanol	1	Cyprinus carpio	Comparative Biochemi
62-53-3	aniline	2,6	Danio rerio	Sci Total Environ 10

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12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Avoid release to the environment.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Dispose of contents/container to hazardous or special waste collection point.

Do not allow to enter into surface water or drains.

Contaminated packaging

This material and its container must be disposed of as hazardous waste.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 1230
14.2. UN proper shipping name:	METHANOL
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+6.1
Classification code:	FT1
Special Provisions:	279
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	336
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1230
14.2. UN proper shipping name:	METHANOL
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+6.1
Classification code:	FT1
Special Provisions:	279 802
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1230
14.2. UN proper shipping name:	METHANOL
14.3. Transport hazard class(es):	3

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14.4. Packing group:	II
Hazard label:	3+6.1
Special Provisions:	279
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1230
14.2. UN proper shipping name:	METHANOL
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+6.1
Special Provisions:	A113
Limited quantity Passenger:	1 L
Passenger LQ:	Y341
Excepted quantity:	E2
IATA-packing instructions - Passenger:	352
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	364
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

14.6. Special precautions for user

Warning: Combustible liquid. Toxic.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

4,4'-diaminodiphenylmethane

Substances of very high concern, SVHC (REACH, article 59):

4-methyl-m-phenylene diamine

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 9, Entry 13, Entry 28, Entry 40, Entry 43, Entry 69, Entry 75

Information according to Directive H2 ACUTE TOXIC

2012/18/EU (SEVESO III):

Additional information: P5c, E2

Additional information

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

National regulatory information

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

SECTION 16: Other information

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Abbreviations and acronyms

Flam. Liq. 2: Flammable liquids, hazard category 2
 Acute Tox. 2: Acute toxicity, hazard category 2
 Acute Tox. 3: Acute toxicity, hazard category 3
 Acute Tox. 4: Acute toxicity, hazard category 4
 Skin Corr. 1B: Skin corrosion, sub-category 1B
 Skin Irrit. 2: Skin irritation, hazard category 2
 Eye Dam. 1: Serious eye damage, hazard category 1
 Eye Irrit. 2: Eye irritation, hazard category 2
 Resp. Sens. 1: Respiratory sensitisation, hazard category 1
 Skin Sens. 1: Skin sensitisation, hazard category 1
 Skin Sens. 1B: Skin sensitisation, hazard category 1B
 Muta. 2: Germ cell mutagenicity, hazard category 2
 Carc. 1A: Carcinogenicity, hazard category 1A
 Carc. 1B: Carcinogenicity, hazard category 1B
 Carc. 2: Carcinogenicity, hazard category 2
 Repr. 2: Reproductive toxicity, hazard category 2
 STOT SE 1: Specific target organ toxicity - single exposure, hazard category 1
 STOT SE 2: Specific target organ toxicity - single exposure, hazard category 2
 STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1
 STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
 Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1
 Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1
 Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service
 LC50: Lethal concentration, 50%
 LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Carc. 1A; H350	Calculation method
Acute Tox. 3; H331	Calculation method
Acute Tox. 3; H311	Calculation method
Acute Tox. 3; H301	Calculation method
STOT SE 1; H370	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
 H301 Toxic if swallowed.
 H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.

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H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H361f	Suspected of damaging fertility.
H370	Causes damage to organs (eyes, central nervous system).
H370	Causes damage to organs.
H371	May cause damage to organs.
H372	Causes damage to organs (blood) through prolonged or repeated exposure.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs (...) through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH208	Contains 4-chloroaniline, 3-Chloroaniline, 2,3-dichloroaniline, 2,5-dichloroaniline, 2,6-dichloroaniline, 2,4,6-trichloroaniline; 1-amino-2,4,6-trichlorobenzene, 3-Chloro-2-methylaniline, 3,3'-dichlorobenzidine, 3,4-dichloroaniline, 4-methyl-m-phenylene diamine, 4,4'-diaminodiphenylmethane, aniline. May produce an allergic reaction.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)