

Safety Data Sheet

Aniline-d7

According to Regulation (EC) No. 1907/2006 (REACH)

Version number: GHS 2.0
Replaces version of: 2021-07-07 (GHS 1)

Revision: 2023-02-02

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

Identification of the substance	Aniline-d7
Registration number (REACH)	this information is not available
CAS number	14545-23-4
Alternative name(s)	aniline-d7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	industrial uses the product is intended for research, analysis and scientific education scientific research and development product and process oriented research and development laboratory and analytical use laboratory chemical
HS code	2845.90.

1.3 Details of the supplier of the safety data sheet

Zeochem AG Joweid 5, CH-8630 Rütli Switzerland	Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com / info@zeochem.ch Website: https://www.zeochem.com
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1.4 Emergency telephone number**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.5	germ cell mutagenicity	2	Muta. 2	H341
3.6	carcinogenicity	2	Carc. 2	H351
3.9	specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

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For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects


Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

2.2.1.2 Pictograms

GHS05, GHS06, GHS08, GHS09	
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Hazard statements

H301+H311+H331	toxic if swallowed, in contact with skin or if inhaled
H317	may cause an allergic skin reaction
H318	causes serious eye damage
H341	suspected of causing genetic defects
H351	suspected of causing cancer
H372	causes damage to organs through prolonged or repeated exposure
H410	very toxic to aquatic life with long lasting effects

Precautionary statements

P201	obtain special instructions before use
P260	do not breathe dust/fume/gas/mist/vapours/spray
P273	avoid release to the environment
P280	wear protective gloves/protective clothing/eye protection/face protection/hearing protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P361+P364	take off immediately all contaminated clothing and wash it before reuse
P362+P364	take off contaminated clothing and wash it before reuse
P391	collect spillage
P403+P233	store in a well-ventilated place. Keep container tightly closed
P501	dispose of contents/container in accordance with local/regional/national/international regulations

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2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Aniline-d7
Identifiers	
CAS No	14545-23-4
EC No	238-580-4
Purity	≥90 %

Specific Conc. Limits	M-Factors	ATE	Exposure route
STOT RE 1; H372: C ≥ 1 % STOT RE 2; H373: 0.2 % ≤ C < 1 %	-	100 mg/kg 300 mg/kg 3 mg/l/4h	oral dermal inhalation: vapour

Molecular formula	C6D7N
Molar mass	100 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Store in a dry place.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
DE	aniline	62-53-3	MAK	2	7.7	4	15.4			va, H	DFG
DE	aniline	62-53-3	AGW	2	7.7	4	15.4			va, H, Sh, Y	TRGS 900
ES	aniline	62-53-3	VLA	2	7.74	5	19.4			H	INSHT
EU	aniline	62-53-3	IOELV	2	7.74	5	19.4			skin, H	2019/1831/EU
FR	aniline	62-53-3	VME	2	7.74	5	19.4			H	INRS
IT	aniline	62-53-3	VLEP	2	7.74	5	19.4			H	G.U. n. 218 - Allegato XXXVIII

Notation

Ceiling-C

ceiling value is a limit value above which exposure should not occur

H absorbed through the skin

Sh skin-sensitising substances

skin a skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

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Notation

TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours
	time-weighted average (unless otherwise specified)
va	as vapours and aerosols
Y	a risk of developmental toxicity does not need to be expected if the occupational exposure limit value and the biological limit value (BGW) are adhered to

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
DE	aniline	aniline		BAT (BLW)	100 µg/l	DFG
DE	aniline	aniline	hydr	BAT	500 µg/l	DFG
DE	aniline	aniline	hydr	BLV	500 µg/l	TRGS 903
ES	aniline	aniline	hydr	VLB	0.2 mg/l	INSHT

Notation

hydr hydrolysis

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	7.7 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	15.4 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	2 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	4 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Environmental values

Relevant PNECs and other threshold levels

Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	2 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.153 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.015 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.033 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

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Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

Nitrile

IIR: isobutene-isoprene (butyl) rubber

- Breakthrough times of the glove material

>30 minutes (permeation: level 2)

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Melting point/freezing point	-6.2 °C
Boiling point or initial boiling point and boiling range	184 °C at 1,013 hPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	76 °C at 1,013 hPa (closed cup)

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Auto-ignition temperature	630 °C at 1,013 hPa (ECHA) (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	3.95 mm ² /s at 20 °C

Solubility(ies)

Water solubility	35 g/l at 20 °C
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Partition coefficient

Partition coefficient n-octanol/water (log value)	0.91 (pH value: 7.5, 25 °C) (ECHA)
Soil organic carbon/water (log KOC)	2.11 (ECHA)

Vapour pressure	0.4 hPa at 20 °C
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Density and/or relative density

Density	1.1 g/cm ³
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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Other safety characteristics

Refractive index	1.58 (20 °C)
Temperature class (EU, acc. to ATEX)	T1 (maximum permissible surface temperature on the equipment: 450°C)

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

- Acute toxicity estimate (ATE)

Oral	100 mg/kg
Dermal	300 mg/kg
Inhalation: vapour	3 mg/l/4h

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

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Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	28.3 mg/l	fish	48 h
EC50	0.16 mg/l	aquatic invertebrates	48 h
ErC50	175 mg/l	algae	72 h

Aquatic toxicity (chronic)			
Endpoint	Value	Species	Exposure time
LC50	8.2 mg/l	fish	7 d
EC50	0.044 mg/l	aquatic invertebrates	21 d

12.2 Persistence and degradability

Biodegradation

The substance is readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
oxygen depletion	70 %	15 d
DOC removal	100 %	5 d

12.3 Bioaccumulative potential

Data are not available.

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n-octanol/water (log KOW)	0.91 (pH value: 7.5, 25 °C) (ECHA)
BCF	2.6 (ECHA)

12.4 Mobility in soil

Henry's law constant	0.205 Pa m ³ /mol at 25 °C
The Organic Carbon normalised adsorption coefficient	2.11 (ECHA)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1547
IMDG-Code	UN 1547
ICAO-TI	UN 1547

14.2 UN proper shipping name

ADR/RID/ADN	ANILINE
IMDG-Code	ANILINE
ICAO-TI	Aniline

14.3 Transport hazard class(es)

ADR/RID/ADN	6.1
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IMDG-Code	6.1
ICAO-TI	6.1
14.4 Packing group	
ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II
14.5 Environmental hazards	hazardous to the aquatic environment
14.6 Special precautions for user	
Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7 Maritime transport in bulk according to IMO instruments	
The cargo is not intended to be carried in bulk.	

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code	T1
Danger label(s)	6.1, fish and tree
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	279, 802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 ml
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	60

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (P) (hazardous to the aquatic environment)
Danger label(s)	6.1, fish and tree
	
Special provisions (SP)	279
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 mL
EmS	F-A, S-A
Stowage category	A

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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards YES (hazardous to the aquatic environment)

Danger label(s) 6.1



Special provisions (SP) A113

Excepted quantities (EQ) E4

Limited quantities (LQ) 1 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)			
Name of substance	Name acc. to inventory	CAS No	No
Aniline-d7	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
Aniline-d7	substances in tattoo inks and permanent make-up		75

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

not listed

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
Aniline-d7		a)	

Legend

A) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

Not listed.

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National inventories

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed

Legend

REACH Reg. REACH registered substances
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.