

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 6.4  
Revision Date 11.08.2021  
Print Date 25.09.2021**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Aniline

Product Number : 242284

Brand : Sigma-Aldrich

Index-No. : 612-008-00-7

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 62-53-3

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Merck Life Science UK Limited  
New Road  
The Old Brickyard  
GILLINGHAM  
Dorset  
SP8 4XT  
UNITED KINGDOM

Telephone : +44 (0)1747 833-000  
Fax : +44 (0)1747 833-313

**1.4 Emergency telephone**

Emergency Phone # : +44 (0)870 8200418 (CHEMTREC)

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

Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Dermal (Category 3), H311  
Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 2), H351  
Specific target organ toxicity - repeated exposure (Category 1), Blood, H372

Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

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 (Blood) through prolonged or repeated exposure.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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.

P302 + P352 + P312

IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.

P304 + P340 + P311

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

none

### Reduced Labeling (<= 125 ml)

Pictogram



Signal word

Danger

Hazard statement(s)

H317

May cause an allergic skin reaction.

H341

Suspected of causing genetic defects.

H351

Suspected of causing cancer.

H372

Causes damage to organs through prolonged or repeated exposure.

H318

Causes serious eye damage.

H301 + H311 + H331

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

Precautionary statement(s)

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 + P312

IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.

P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
Rapidly absorbed through skin.

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Formula	: C <sub>6</sub> H <sub>7</sub> N
Molecular weight	: 93.13 g/mol
CAS-No.	: 62-53-3
EC-No.	: 200-539-3
Index-No.	: 612-008-00-7

Component		Classification	Concentration
<b>Aniline</b>			
CAS-No.	62-53-3	Acute Tox. 3; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 2; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H311, H318, H317, H341, H351, H372, H400, H410 Concentration limits: >= 1 %: STOT RE 1, H372; 0.2 - < 1 %: STOT RE 2, H373; M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1	<= 100 %
EC-No.	200-539-3		
Index-No.	612-008-00-7		

For the full text of the H-Statements mentioned in this Section, see Section 16.

# SECTION 4: First aid measures

## 4.1 Description of first-aid measures

### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Handle under inert gas. Protect from moisture. Light sensitive.

#### Storage class

Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Aniline	62-53-3	TWA	1 ppm 4 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits
	Remarks	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		TWA	2 ppm 7.74 mg/m <sup>3</sup>	Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
		A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin. Indicative		

		STEL	5 ppm 19.35 mg/m <sup>3</sup>	Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
		A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin. Indicative		

## 8.2 Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Latex gloves

Minimum layer thickness: 0.6 mm

Break through time: 60 min

Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)

#### Body Protection

protective clothing

#### Respiratory protection

Recommended Filter type: Filter A-(P3)

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.

#### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odor	No data available
c) Odor Threshold	2.44 ppm
d) pH	8.8 at 36 g/l at 20 °C
e) Melting point/freezing point	Melting point/range: -6 °C - lit.
f) Initial boiling point and boiling range	184 °C - lit.
g) Flash point	70 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 23 %(V) Lower explosion limit: 1.3 %(V)
k) Vapor pressure	0.49 hPa at 20 °C
l) Vapor density	3.22 - (Air = 1.0)
m) Density	1.022 g/cm <sup>3</sup> at 25 °C - lit.
Relative density	No data available
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	log Pow: 0.91 - Bioaccumulation is not expected.
p) Autoignition temperature	No data available
q) Decomposition temperature	190 °C -
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 4.4 mPa.s at 20 °C
s) Explosive properties	No data available
t) Oxidizing properties	none

### 9.2 Other safety information

Surface tension 42.12 mN/m at 25 °C

Relative vapor density 3.22 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

Risk of explosion with:

Oxidizing agents  
peroxi compounds  
perchlorates  
perchloric acid  
Nitric acid  
Oxygen  
organic nitro compounds  
benzene/benzene derivatives  
nitrates

Exothermic reaction with:

semimetallic halides  
Acetic anhydride  
acids

Risk of ignition or formation of inflammable gases or vapours with:

Fluorine  
Alkaline earth metals  
Alkali metals

## 10.4 Conditions to avoid

Avoid moisture.

Strong heating.

## 10.5 Incompatible materials

Strong oxidizing agents

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 250 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - 4 h - 3.3 mg/l

Remarks: (Lit.)

(Regulation (EC) No 1272/2008, Annex VI)

LD50 Dermal - Rabbit - 840 mg/kg

Remarks: (Lit.)

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Remarks: (Lit.)

#### Serious eye damage/eye irritation

Causes serious eye damage. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Respiratory or skin sensitization

May cause allergic skin reaction. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)



**Germ cell mutagenicity**

Suspected of causing genetic defects.

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Test Type: unscheduled DNA synthesis assay

Test system: rat hepatocytes

Metabolic activation: without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: Micronucleus test

Species: Rat

Cell type: Bone marrow

Application Route: Oral

Method: OECD Test Guideline 474

Result: positive

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal

Method: OECD Test Guideline 475

Result: positive

Test Type: Chromosome aberration test

Species: Rat

Cell type: Bone marrow

Application Route: Oral

Method: OECD Test Guideline 475

Result: positive

Test Type: dominant lethal test

Species: Rat

Application Route: Intraperitoneal

Method: OECD Test Guideline 478

Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure. - Blood

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: BW6650000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Cyanosis, Headache, Vomiting, Nausea, Incoordination., fatigue, Dizziness, Drowsiness, Confusion., Weakness, Unconsciousness, Symptoms may be delayed.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

Toxicity to fish	flow-through test LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 10.6 mg/l - 96.0 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 0.16 mg/l - 48 h (US-EPA)
Toxicity to algae	static test ErC50 - <i>Chlorella pyrenoidosa</i> - 175 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - 2,500 mg/l - 10 min Remarks: (Lit.)

**12.2 Persistence and degradability**

Biodegradability      aerobic - Exposure time 30 d  
Result: ca.90 % - Readily biodegradable.  
(OECD Test Guideline 301D)

**12.3 Bioaccumulative potential**

Bioaccumulation      *Danio rerio* (zebra fish) - < 0.1 mg/l(Aniline)  
  
Bioconcentration factor (BCF): 2.6

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions. Notice Directive on waste 2008/98/EC.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1547

IMDG: 1547

IATA: 1547

### 14.2 UN proper shipping name

ADR/RID: ANILINE

IMDG: ANILINE

IATA: Aniline

### 14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

### 14.6 Special precautions for user

No data available

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## SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

#### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
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 (/*_ORGAN_REPEAT*/) through prolonged or repeated exposure.
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.

### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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