

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 01 Jun 2023

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

4-Chloroaniline

1.1. Catalog No.:

673999

1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical
uses: R&D

1.3. Uses advised against:

HPC Standards GmbH
Am Wieseneck 7

04451 Cunnersdorf
Deutschland

Tel. +49 34291 3372-36
Fax. +49 34291 3372-39
contact@hpc-standards.com

1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Regulation (EC) No 1272/2008
Acute toxicity - Oral Category 3 - (H301)
Acute toxicity - Dermal Category 3 - (H311)
Acute toxicity - Inhalation (Dusts/Mists) Category 3 - (H331)
Skin sensitisation Category 1 - (H317)
Germ cell mutagenicity Category 2 - (H341)
Carcinogenicity Category 1B - (H350)
Specific target organ toxicity -- repeated exposure Category 1 - (H372)
Acute aquatic toxicity Category 1 - (H400)
Chronic aquatic toxicity Category 1 - (H410)

2.2. Label elements

2.2.1. Pictogram



2.2.2.

2.2. Label elements

Contains 4-Chloroaniline

Signal word

Danger

Hazard statements

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H317 - May cause an allergic skin reaction

H331 - Toxic if inhaled

H341 - Suspected of causing genetic defects

H350 - May cause cancer

H372 - Causes damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

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

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P391 - Collect spillage

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

2.3. Other hazards

No information available.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

This product does not contain any known or suspected endocrine disruptors

Chemical name: 4-Chloroaniline

EU - REACH (1907/2006) - Article 59(1)

- Candidate List of Substances of Very

High Concern (SVHC) for Authorisation: -

EU - REACH (1907/2006) - Endocrine

Disruptor Assessment List of

Substances: -

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name: 4-chloroanilines; CAS 106-47-8

Weight %: 100

REACH registration number: -

EC No (EU Index No): 203-401-0

Classification according to Regulation (EC) No. 1272/2008 [CLP]: Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Specific Concentration Limit (SCL):-

M-factor, M-factor (long term): -

Full text of H and EUH statements see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not match the classification category, the

Corresponding conversion value from CLP Annex I, Table 3.1.2 used to calculate the Acute Toxicity Estimate

(ATEmix) to classify a mixture based on its components

Chemical name: 4-chloroanilines; CAS 106-47-8

Oral LD50 mg/kg: 300

Dermal LD50 mg/kg: 360

Inhalation LC50 - 4 h - dust/mist - mg/l: 2.34

Inhalation LC50 - 4 h - Vapor - mg/l: No data available

Inhalation LC50 - 4 h -gas - ppm: No data available

This product does not contain any substances of very high concern (SVHC) from the candidate list in a concentration of $\geq 0.1\%$

(Regulation (EC) No. 1907/2006 (REACH), Article 59)

3.1.1. Formula

C₆H₆CIN

3.1.2. Molecular Weight (g/mol)

127.57

3.1.3. CAS-No.

106-47-8

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

Inhalation If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim

ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

Eye contact Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing.

Skin contact Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information.

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

Symptoms Itching. Rashes. Hives. Coughing and/ or wheezing. Difficulty in breathing.

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

Note to doctors May cause sensitisation in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

Product is or contains a sensitiser. May cause sensitisation by skin contact.

5.3. Advice for firefighters Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash it before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Do not breathe dust.

Avoid generation of dust. Handle product only in closed system or provide appropriate exhaust ventilation.

General hygiene considerations Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe dust. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Please refer to the manufacturers certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Parameters to monitor

exposure limits

Chemical name: 4-Chloroaniline 106-47-8

European Union: -

Austria: H* , skin sensitizer

Belgium: -

Bulgaria: TWA: 0.3 mg/m3

Croatia: TWA: 0.04 ppm TWA: 0.2 mg/m3 Skin Sensitisation

France: -

Germany: TWA: 0.06 ppm TWA: 0.3 mg/m3 H*

Germany MAK: * skin sensitizer

Greece: -

Hungary TWA: 0.2 mg/m3 STEL: 0.8 mg/m3 *

Ireland: -

Italy:-

Italy REL: -

Latvia: -

Lithuania: Sensitizer * Ceiling: 0.3 mg/m3

Luxembourg: -

Malta: -

Netherlands: -

Norway: -

Poland: STEL: 10 mg/m3 TWA: 3 mg/m3 *

Portugal: -

Romania: TWA: 2 mg/m3 STEL: 5 mg/m3 *

Slovakia: -

Slovenia: TWA: 0.04 ppm TWA: 0.2 mg/m3 STEL: STEL ppm STEL: STEL mg/m3 *

Spain: -

Sweden: -

Switzerland: TWA: 0.04 ppm TWA: 0.2 mg/m3 H*

Great Britain: -

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration

(PNEC)

No information available.

8.2. Exposure controls

Personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective Viton(TM) gloves .

Skin and body protection Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe dust. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Solid

Appearance Solid

Colour beige

Odour Aromatic.

Odour threshold No information available

Property Values Remarks o Method

Melting point / freezing point 72.5 °C None known

Initial boiling point and boiling range 232 °C None known

Flammability No data available None known

Flammability Limit in Air None known

Upper flammability or explosive limits
No data available
Lower flammability or explosive limits
No data available
Flash point 123 °C None known
Autoignition temperature 685 °C None known
Decomposition temperature None known
pH No data available None known
pH (as aqueous solution) No data available No information available
Kinematic viscosity No data available None known
Dynamic viscosity No data available None known
Water solubility 2.2 g/l @ 25 °C
Solubility(ies) No data available None known
Partition coefficient 1.83 None known
Vapour pressure No data available None known
Relative density 1.43 @ 20 °C
Bulk density No data available
Liquid Density No data available
Relative vapour density 4.41 None known
Particle characteristics
Particle Size No information available
Particle Size Distribution No information available
9.2. Other information
Molecular weight 127.57
Molecular formula C₆H₆C IN
9.2.1. Information with regards to physical hazard classes
Not applicable
9.2.2. Other safety characteristics
No information available

10. STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity No information available
10.2. Chemical stability
Stability Stable under normal conditions.
Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.
10.3. Possibility of hazardous reactions
Possibility of hazardous reactions None under normal processing.
10.4. Conditions to avoid
Conditions to avoid Excessive heat.
10.5. Incompatible materials
Incompatible materials None known based on information supplied.
Hazardous decomposition products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Information on likely routes of exposure
Product Information
Inhalation Specific test data for the substance or mixture is not available. Toxic by inhalation. (based on components).
Eye contact Specific test data for the substance or mixture is not available.
Skin contact May cause sensitisation by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Toxic in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Toxic if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives

Numerical measures of toxicity

Acute toxicity

Component Information

Chemical name 4-Chloroaniline

Oral LD50 = 300 mg/kg (Rat)

Dermal LD50 = 360 mg/kg (Rabbit)

Inhalation LC50 = 2.34 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name 4-Chloroaniline

European Union Carc. 1B

Reproductive toxicity No information available.

STOT - single exposure No information available.

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

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties

11.2.2. Other information

Other adverse effects No information available.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects

Chemical name 4-Chloroaniline

Algae/aquatic plants: -

Fish : LC50: 1.8 - 3.2mg/L (96h, *Lepomis macrochirus*) LC50: 11.0 - 16.0mg/L (96h, *Oncorhynchus mykiss*) LC50: 29 - 49.1mg/L (96h, *Oryzias latipes*) LC50: 7.0 - 18.0mg/L (96h, *Pimephales promelas*) LC50: 9.7 - 12.5mg/L (96h, *Oncorhynchus mykiss*) LC50: =30.6mg/L (96h, *Pimephales promelas*)

Toxicity to microorganisms: -

Crustacea : EC50: 0.12 - 0.78mg/L (48h, *Daphnia magna*)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name 4-Chloroaniline

Partition coefficient 1.83

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name 4-Chloroaniline

PBT and vPvB assessment The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from residues/unused
products

Dispose of in accordance with local regulations. Dispose of waste in accordance with
environmental legislation.
Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

IATA

14.1 UN number or ID number UN2018
14.2 UN proper shipping name Chloroanilines, solid
14.3 Transport hazard class(es) 6.1
14.4 Packing group II
Description UN2018, Chloroanilines, solid, 6.1, II
14.5 Environmental hazards Yes
14.6 Special precautions for user
Special Provisions None
ERG Code 6L

IMDG

14.1 UN number or ID number UN2018
14.2 UN proper shipping name Chloroanilines, solid
14.3 Transport hazard class(es) 6.1
14.4 Packing group II
Description UN2018, Chloroanilines, solid, 6.1, II, Marine pollutant
14.5 Marine pollutant P
Environmental hazards Yes
14.6 Special precautions for user
Special Provisions None
EmS-No F-A, S-A No information available
14.7 Maritime transport in bulk
according to IMO instruments
No information available

RID

14.1 UN number or ID number UN2018
14.2 UN proper shipping name Chloroanilines, solid
14.3 Transport hazard class(es) 6.1
14.4 Packing group II
Description UN2018, Chloroanilines, solid, 6.1, II, Environmentally Hazardous
14.5 Environmental hazards Yes
14.6 Special precautions for user
Special Provisions None
Classification code T2

ADR

14.1 UN number or ID number UN2018
14.2 UN proper shipping name Chloroanilines, solid
14.3 Transport hazard class(es) 6.1
14.4 Packing group II
Description UN2018, Chloroanilines, solid, 6.1, II, (D/E), Environmentally Hazardous
14.5 Environmental hazards Yes
14.6 Special precautions for user
Special Provisions None
Classification code T2
Tunnel restriction code (D/E)

15. REGULATORY INFORMATION

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

National regulations

France

Occupational diseases (R-463-3, France)

Chemical name 4-Chloroaniline 106-47-8

French RG number RG 15, RG 15bis

Title: -

water hazard class

(WGK)

highly hazardous to water (WGK 3)

Netherlands

Chemical name 4-Chloroaniline

Netherlands - List of carcinogens: Present

Netherlands - List of mutagens: -

Netherlands - List of reproductive toxins: -

Poland SDS created according to the following Polish regulation: Act of February 25, 2011 on chemical substances and their mixtures (Journal of Laws of 2018, item 143, as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency (EC) as amended. regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, as amended. Regulation of the Minister of Health of 10 August 2012 on the criteria and method of classifying chemical substances and their mixtures (Journal of Laws of 2012, item 1018). Regulation of the Minister of Health of 20 April 2012 on labelling packaging of hazardous substances and mixtures and some mixtures (Journal of Laws of 2012, item 445). Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the maximum allowable concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286). Announcement of the Minister of Economy, Labor and Social Policy of August 28, 2003 on the publication of the unified text of the Ordinance of the Minister of Labor and Social Policy on general health and safety at work regulations (Journal of Laws of 2003, no. 169, item 1650). Regulation of the Minister of Health of 30 December 2004 on occupational safety and health related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86). Act of December 14, 2012 on waste (Journal of Laws of 2013, item 21) Regulation of the Minister of Health of December 30, 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal U. of 2005, No. 11, item 86). Waste Act of December 14, 2012 (Journal of Laws of 2013, item 21). Act of 13 June 2013 on the management of packaging and packaging waste, Journal of Laws 2013, item 888). Government statement of September 24, 2002 - European Agreement on the International Carriage of Dangerous Goods by Road (ADR) (Journal of Laws No. 194, item 1629 and Journal of Laws of 2003, no. 207, items 2013 and 2014).

European Union

Directive 98/24/EC on the protection of the health and safety of workers against the risks related to chemical

Observe working materials at work.

Permissions and/or Restrictions on Use:

This product contains one or more substances that are subject to restrictions (Regulation (EC) No. 1907/2006, (REACH), Annex XVII)

REGULATION (EU) 2019/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the marketing and

Use of explosives precursors

Not applicable

Restricted substance according to REACH Annex XVII: 28. 43.

Persistent organic pollutants

Not applicable

Category for dangerous substances according to Seveso Directive (2012/18/EU)

H2 - ACUTE TOXIC

E1 - Hazardous to the aquatic environment in category Acute 1 or Chronic 1

Regulation on Ozone Depleting Substances (EC) No. 1005/2009

Not applicable

International

inventories

TSCA Compliant

Contact DSL/NDSL supplier for inventory compliance status

Contact EINECS/ELINCS suppliers for stock compliance status

ENCS Contact suppliers for inventory compliance status

Contact IECSC suppliers for inventory compliance status

Contact KECL suppliers for inventory compliance status

Contact PICCS suppliers for stock compliance status

Contact AIIC suppliers for inventory compliance status

Legend:

TSCA - United States Hazardous Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Equivalent to European Existing Substances List/Canadian List of Substances Existing Only Abroad

market are

EINECS/ELINCS - European Inventory of Existing Chemical Substances

Existing Chemical Substances)/European List of Notified Chemical Substances

chemical substances)

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS

16. OTHER 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. For lab use only!