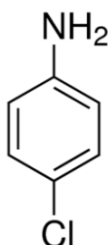


### MATERIAL SAFETY DATA SHEET (MSDS)

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Product form : Substance  
:  
EC Index-No. : 612-137-00-9  
EC-No. : 203-401-0  
CAS-No. : 106-47-8  
Product code : 02733  
Chemical structure :



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

###### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only

###### 1.2.2. Uses advised against

No additional information available

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

SPAN LAB  
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), H301  
Category 3  
Acute toxicity (dermal), H311  
Category 3  
Acute toxicity (inhal.), H331  
Category 3

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Skin sensitisation, Category 1 H317  
Carcinogenicity, Category 1B H350  
Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.2; R45  
T; R23/24/25  
R43  
N; R50/53

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06

GHS08

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H317 - May cause an allergic skin reaction.  
H350 - May cause cancer.  
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P201 - Obtain special instructions before use.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P301+P310 - IF SWALLOWED: Immediately call a doctor.  
P311 - Call a doctor.  
P261 - Avoid breathing vapours, spray, dust, fume, gas.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : 4-CHLOROANILINE FOR SYNTHESIS  
CAS-No. : 106-47-8

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

EC-No. : 203-401-0  
EC Index-No. : 612-137-00-9

Full text of R- and H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Wash with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Obtain emergency medical attention.

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

Symptoms/effects : May cause cancer.

Symptoms/effects after inhalation : Toxic if inhaled.

Symptoms/effects after skin contact : Toxic in contact with skin. May cause an allergic skin reaction.

Symptoms/effects after ingestion : Toxic if swallowed.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Very toxic to aquatic life with long lasting effects.

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapours. Obtain special instructions before use. Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : Protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Molecular mass : 127.57 g/mol  
Colour : Colorless crystals.  
Odour : sweetish.  
Odour threshold : No data available  
pH : 6.9 at 1.00000 g/l at 20 °C  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : 72.5 °C  
Freezing point : No data available

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Boiling point	: 232 °C
Flash point	: > 104.44 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.14 g/cm <sup>3</sup>
Solubility	: Water: Partially soluble in cold water
Log Pow	: 2.12
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Air contact. Direct sunlight. Moisture. Overheating.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation: Toxic if inhaled.

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Skin corrosion/irritation	: Not classified pH: 6.9 at 1.00000 g/l at 20 °C
Serious eye damage/irritation	: Not classified pH: 6.9 at 1.00000 g/l at 20 °C
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer.

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Toxic if swallowed. Toxic in contact with skin.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

#### 4-CHLOROANILINE FOR SYNTHESIS (106-47-8)

Persistence and degradability	May cause long-term adverse effects in the environment.
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### 12.3. Bioaccumulative potential

#### 4-CHLOROANILINE FOR SYNTHESIS (106-47-8)

Log Pow	2.12
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Ecology - waste materials : Hazardous waste due to toxicity.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 2018  
UN-No. (IMDG) : 2018  
UN-No. (IATA) : 2018  
UN-No. (ADN) : 2018  
UN-No. (RID) : 2018

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : CHLOROANILINES, SOLID  
Proper Shipping Name (IMDG) : CHLOROANILINES, SOLID  
Proper Shipping Name (IATA) : Chloroanilines, solid  
Proper Shipping Name (ADN) : CHLOROANILINES, SOLID  
Proper Shipping Name (RID) : CHLOROANILINES, SOLID  
Transport document description (ADR) : UN 2018 CHLOROANILINES, SOLID, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS  
Transport document description (IMDG) : UN 2018 CHLOROANILINES, SOLID, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS  
Transport document description (IATA) : UN 2018 Chloroanilines, solid, 6.1, II, ENVIRONMENTALLY HAZARDOUS  
Transport document description (ADN) : UN 2018 CHLOROANILINES, SOLID, 6.1, II, ENVIRONMENTALLY HAZARDOUS  
Transport document description (RID) : UN 2018 CHLOROANILINES, SOLID, 6.1, II, ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR) : 6.1  
Danger labels (ADR) : 6.1



##### IMDG

Transport hazard class(es) (IMDG) : 6.1  
Danger labels (IMDG) : 6.1



##### IATA

Transport hazard class(es) (IATA) : 6.1  
Hazard labels (IATA) : 6.1



# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

### ADN

Transport hazard class(es) (ADN) : 6.1

Danger labels (ADN) : 6.1



### RID

Transport hazard class(es) (RID) : 6.1

Danger labels (RID) : 6.1



### 14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : T2

Limited quantities (ADR) : 500g

Excepted quantities (ADR) : E4

Packing instructions (ADR) : P002, IBC08

Special packing provisions (ADR) : B4

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T3

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAH, L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT

Transport category (ADR) : 2

Special provisions for carriage - Packages (ADR) : V11

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Special provisions for carriage - Operation (ADR) : S9, S19



# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Hazard identification number (Kemler No.) : 60  
Orange plates :



Tunnel restriction code (ADR) : D/E  
EAC code : 2X

### - Transport by sea

Packing instructions (IMDG) : P002  
IBC packing instructions (IMDG) : IBC08  
IBC special provisions (IMDG) : B21, B4  
Tank instructions (IMDG) : T3  
Tank special provisions (IMDG) : TP33  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : A  
Properties and observations (IMDG) : Crystalline solid. Melting point of pure para-chloroaniline: 70°C approximately. Toxic if swallowed, by skin contact or by dust inhalation.  
MFAG-No : 152

### - Air transport

PCA Excepted quantities (IATA) : E4  
PCA Limited quantities (IATA) : Y644  
PCA limited quantity max net quantity (IATA) : 1kg  
PCA packing instructions (IATA) : 669  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 676  
CAO max net quantity (IATA) : 100kg  
ERG code (IATA) : 6L

### - Inland waterway transport

Classification code (ADN) : T2  
Special provisions (ADN) : 802  
Limited quantities (ADN) : 500 g  
Excepted quantities (ADN) : E4  
Equipment required (ADN) : PP, EP  
Number of blue cones/lights (ADN) : 2

### - Rail transport

Classification code (RID) : T2  
Excepted quantities (RID) : E4  
Packing instructions (RID) : P002, IBC08  
Special packing provisions (RID) : B4  
Mixed packing provisions (RID) : MP10  
Portable tank and bulk container instructions (RID) : T3  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAH, L4BH  
Special provisions for RID tanks (RID) : TU15  
Transport category (RID) : 2  
Special provisions for carriage – Packages (RID) : W11  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

Colis express (express parcels) (RID) : CE9  
Hazard identification number (RID) : 60

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

4-CHLOROANILINE FOR SYNTHESIS is not on the REACH Candidate List

4-CHLOROANILINE FOR SYNTHESIS is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, severe hazard to water (Classification according to AwSV; ID No. 224)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : 4-CHLOROANILINE FOR SYNTHESIS is listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product  
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

# 4-CHLOROANILINE FOR SYNTHESIS

## Safety Data Sheet

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Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R43	May cause sensitisation by skin contact
R45	May cause cancer
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
T	Toxic

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*