

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 28 Apr 2025

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

### 1.1. Product name:

2,4-D

### 1.1. Catalog No.:

673133

### 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  
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]  
Specific target organ toxicity - single exposure (Category 3)  
Serious eye damage (Category 1)  
Skin sensitization (Category 1)  
Chronic aquatic toxicity (Category 3)  
Acute toxicity, Oral (Category 4)  
Classification according to EU Directives 67/548/EEC or 1999/45/EC  
Harmful if swallowed. Irritating to respiratory system. Risk of serious damage to eyes. May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2. Label elements

#### 2.2.1. Pictogram



### 2.2.2.

Signal word Danger  
Hazard statement(s)  
H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects. Precautionary statement(s)  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
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  
According to European Directive 67/548/EEC as amended.  
Hazard symbol(s) R-phrases(s)  
R22 Harmful if swallowed.  
R37 Irritating to respiratory system.  
R41 Risk of serious damage to eyes.  
R43 May cause sensitization by skin contact.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
S-phrases(s)  
S24/25 Avoid contact with skin and eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S46 If swallowed, seek medical advice immediately and show this container or label.  
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.  
2.3 Other hazards - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances  
Synonyms : 2,4-Dichlorophenoxyacetic acid  
2,4-D  
Formula : C<sub>8</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>3</sub>  
Molecular Weight : 221,04 g/mol  
Component Concentration  
2,4-Dichlorophenoxyacetic acid  
CAS-No.  
EC-No.  
Index-No.  
94-75-7  
202-361-1  
607-039-00-8  
-

### 3.1.1. Formula

C<sub>8</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>3</sub>

### 3.1.2. Molecular Weight (g/mol)

221.04

### 3.1.3. CAS-No.

94-75-7

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Nausea, Vomiting, Weakness, Dizziness, Headache, Sweating, Exposure to large amounts can cause:  
Ataxia., Convulsions

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

no data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides, Hydrogen chloride gas

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure

adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

## **7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Light sensitive.

**7.3 Specific end uses**

no data available

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

Components with workplace control parameters

**8.2 Exposure controls**

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

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

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: powder  
Colour: light brown
  - b) Odour no data available
  - c) Odour Threshold no data available
  - d) pH no data available
  - e) Melting point/freezing point  
Melting point/range: 136 - 140 °C - lit.
  - f) Initial boiling point and boiling range  
160 °C at 1.013 hPa
  - g) Flash point no data available
  - h) Evaporation rate no data available
  - i) Flammability (solid, gas) no data available
  - j) Upper/lower flammability or explosive limits  
no data available
  - k) Vapour pressure < 1,00 hPa at 20 °C
  - l) Vapour density no data available
  - m) Relative density no data available
  - n) Water solubility insoluble
  - o) Partition coefficient: noctanol/water  
no data available
  - p) Autoignition temperature  
no data available
  - q) Decomposition temperature  
no data available
  - r) Viscosity no data available s) Explosive properties no data available
  - t) Oxidizing properties no data available
- ### 9.2 Other safety information
- Bulk density 720 g/l

## 10. STABILITY AND REACTIVITY

- 10.1 Reactivity  
no data available
- 10.2 Chemical stability  
no data available
- 10.3 Possibility of hazardous reactions  
no data available
- 10.4 Conditions to avoid  
no data available
- 10.5 Incompatible materials  
Strong oxidizing agents, Copper, Iron and iron salts.
- 10.6 Hazardous decomposition products  
Other decomposition products - no data available

## 11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects  
Acute toxicity  
LD50 Oral - rat - 375 mg/kg  
LD50 Dermal - rabbit - 1.400 mg/kg  
Remarks: Behavioral:Ataxia. Skin irritation

Skin corrosion/irritation  
Skin - rabbit - Mild skin irritation - 24 h  
Serious eye damage/eye irritation  
Eyes - rabbit - Severe eye irritation - 24 h  
Respiratory or skin sensitization  
no data available  
May cause sensitization by inhalation.  
Germ cell mutagenicity  
no data available  
Carcinogenicity  
This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
Reproductive toxicity  
Laboratory experiments have shown teratogenic effects.  
Specific target organ toxicity - single exposure  
May cause respiratory irritation.  
Specific target organ toxicity - repeated exposure  
no data available Aspiration hazard  
no data available  
Potential health effects  
Inhalation May be harmful if inhaled. Causes respiratory tract irritation.  
Ingestion Harmful if swallowed.  
Skin Harmful if absorbed through skin. May cause skin irritation.  
Eyes Causes eye burns.  
Signs and Symptoms of Exposure  
Nausea, Vomiting, Weakness, Dizziness, Headache, Sweating, Exposure to large amounts can cause:;  
Ataxia., Convulsions  
Additional Information  
RTECS: AG6825000

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
Toxicity to fish LC50 - Salmo salar (Atlantic salmon) - 100 mg/l - 96,0 h  
Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h  
Toxicity to algae Growth inhibition LOEC - Pseudokirchneriella subcapitata - 50 mg/l - 60 h  
EC50 - Pseudokirchneriella subcapitata (green algae) - 0,024 - 0,026 mg/l - 96 h  
mortality NOEC - Phyllospora comosa - 10 mg/l - 96 h  
12.2 Persistence and degradability  
no data available  
12.3 Bioaccumulative potential  
no data available  
12.4 Mobility in soil  
no data available  
12.5 Results of PBT and vPvB assessment  
no data available  
12.6 Other adverse effects  
Very toxic to aquatic life.  
Avoid release to the environment.

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.  
Contaminated packaging  
Dispose of as unused product

#### 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 3077 IMDG: 3077 IATA: 3077  
14.2 UN proper shipping name  
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2,4-Dichlorophenoxyacetic acid)  
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2,4-Dichlorophenoxyacetic acid)  
IATA: Environmentally hazardous substance, solid, n.o.s. (2,4-Dichlorophenoxyacetic acid)  
14.3 Transport hazard class(es)  
ADR/RID: 9 IMDG: 9 IATA: 9  
14.4 Packaging group  
ADR/RID: III IMDG: III IATA: III  
14.5 Environmental hazards  
ADR/RID: yes IMDG Marine pollutant: yes IATA: yes  
14.6 Special precautions for user  
no data available

#### 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.  
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
no data available  
15.2 Chemical Safety Assessment  
no data available

#### 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!