Chemical Safety Data Sheet MSDS / SDS

# 2,6-dichloro-4-nitroaniline SDS

Revision Date:2024-04-25 Revision Number:1



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

### Product identifier

Product name: 2,6-dichloro-4-nitroaniline

CAS: 99-30-9

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

### Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

## SECTION 2: Hazards identification

### Classification of the substance or mixture

Acute toxicity - Category 2, Oral
Acute toxicity - Category 1, Dermal

Acute toxicity - Category 2, Inhalation
Specific target organ toxicity – repeated exposure, Category 2
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

**GHS label elements, including precautionary statements**

Pictogram(s)

Signal word Danger

**Hazard statement(s)**

H300 Fatal if swallowed
H310 Fatal in contact with skin
H330 Fatal if inhaled
H373 May cause damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.
P273 Avoid release to the environment.

**Response**

P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P316 Get emergency medical help immediately.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P320 Specific treatment is urgent (see ... on this label).

P319 Get medical help if you feel unwell.
P391 Collect spillage.

### Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### Substance

| | |
|---|---|
| Chemical name: | 2,6-dichloro-4-nitroaniline |
| Common names and synonyms: | 2,6-dichloro-4-nitroaniline |
| CAS number: | 99-30-9 |
| EC number: | 202-746-4 |
| Concentration: | 100% |

## SECTION 4: First aid measures

### Description of necessary first-aid measures

### If inhaled

Fresh air, rest.

### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

### Following ingestion

Rinse mouth.

### Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound may include irritation of the nose, eyes, skin and throat, coughing, chest discomfort, nausea and vomiting. Absorption into the body leads to the formation of methemoglobin which in sufficient concentrations causes cyanosis. Exposure to this compound may also cause sensitization and bladder irritation. (NTP, 1992)

### Indication of immediate medical attention and special treatment needed, if necessary

Gastrointestinal decontamination. If a large amount of the fungicide has been ingested in the last few hours, and if copious vomiting has not already occurred, it may be reasonable to consider GI decontamination. Activated charcoal can be used along with the addition of the cathartic sorbitol to the charcoal slurry. If sorbitol is given separately, it should be diluted with an equal volume of water before administration. No more than one dose of sorbitol is recommended and it should be used with caution in children and the elderly. If contact with the toxicant has been minimal (for example, oral contamination only, promptly flushed out of the mouth), administration of charcoal without a cathartic, followed by careful observation of the patient, probably represents optimal management. Substituted benzenes

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Appropriate Extinguishing Media: water spray, Class A, B or C extinguisher. Botran 5F Fungicide

### Specific hazards arising from the chemical

Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)

### Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### Methods and materials for containment and cleaning up

Do not contaminate /receiving/ water when disposing of equipment, washwaters or rinsate. Botran 5F Fungicide

## SECTION 7: Handling and storage

### Precautions for safe handling

NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs.Do not contaminate water, food or feed by storage ... Store in original container and keep closed. Store in a cool, dry place. Botran 5F Fungicide

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

no data available

### Biological limit values

no data available

**Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Wear safety goggles.

**Skin protection**

Protective gloves.

**Respiratory protection**

Use local exhaust or breathing protection.

**Thermal hazards**

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

| | |
|---|---|
| Physical state: | PHYSICAL DESCRIPTION: Yellow crystals or solid. Slight aniline odor. Used as a fungicide. Insoluble in water, but often formulated as a wettable powder (easily dispersed in water). |
| Colour: | Yellow needles from alcohol and acetic acid |
| Odour: | Odorless |
| Melting point/freezing point: | -46°C(lit.) |
| Boiling point or initial boiling point and boiling range: | 130°C/2.3mmHg(lit.) |
| Flammability: | Combustible. Gives off irritating or toxic fumes (or gases) in a fire. |

| | |
|---|---|
| Lower and upper explosion limit/flammability limit: | no data available |
| Flash point: | 64°C(lit.) |
| Auto-ignition temperature: | no data available |
| Decomposition temperature: | no data available |
| pH: | no data available |
| Kinematic viscosity: | no data available |
| Solubility: | less than 0.1 mg/mL at 77° F (NTP, 1992) |
| Partition coefficient n-octanol/water: | log Kow = 2.80 at 25 deg C |
| Vapour pressure: | 1.2e-06 mm Hg at 68° F (NTP, 1992) |
| Density and/or relative density: | 1.624g/cm3 |
| Relative vapour density: | no data available |
| Particle characteristics: | no data available |

## SECTION 10: Stability and reactivity

**Reactivity**

Decomposes on heating and on burning. This produces toxic and corrosive fumes including nitrogen oxides and hydrogen chloride.

**Chemical stability**

Stable to hydrolysis & oxidation

### Possibility of hazardous reactions

NON-FLAMMABLEDust explosion possible if in powder or granular form, mixed with air.DICHLORAN is incompatible with acids, acid chlorides, acid anhydrides, and strong oxidizing agents (NTP, 1992).

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen chloride and nitrogen oxides/.

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 Guinea pig oral 1450 mg/kg

Inhalation: no data available

Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

### STOT-repeated exposure

no data available

### Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill); Conditions: freshwater, static; Concentration: 37000 ug/L for 96 hr

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea) age <24 hr; Conditions: freshwater, static; Concentration: 2070 ug/L for 48 hr (95% confidence interval: 1800-2400 ug/L) /97% purity formulation

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### Persistence and degradability

14)C-Labeled CO2 was evolved when labeled 2,6-dichloro-4-nitroaniline was applied to silt loam soils which had been receiving 2,6-dichloro-4-nitroaniline fungicide applications for several years(1,2); the rate of degradation was observed to increase as new additions of 2,6-dichloro-4-nitroaniline were applied to these soils over a period of several weeks(1,2); sterilization of these soils

by steam, sodium azide, silver nitrate or mercuric chloride inhibited the decomposition completely(2); applications of 2,6-dichloro-4-nitroaniline to a soil which had not received previous applications evolved no labeled CO2(1,2). Over an incubation period of 1-2 months in both anaerobic (flooded) and aerobic soil conditions in three different CA soils, the degradation rate of 2,6-dichloro-4-nitroaniline was observed to be 2.5 to over 20 times faster in non-sterile soil versus sterile soil suggesting that microbial degradation is the major degradation process in soil(3).

### Bioaccumulative potential

2,6-Dichloro-4-nitroaniline has a moderate potential to bio-accumulate in fish tissue based on a bioconcentration study which indicated a bioconcentration factor (BCF) of 136 in whole fish tissue(1); however, the bioaccumulated residues were almost completely eliminated from fish tissues (86-98%) during a 7-14 day depuration period(1). An estimated BCF of 33 can be calculated in fish for 2,6-dichloro-4-nitroaniline(SRC), using a log Kow of 2.80(2) and a regression-derived equation(3). According to a classification scheme(4), a BCF of 33 suggests the potential for bioconcentration in aquatic organisms is moderate(SRC).

### Mobility in soil

Measured Koc values for 2,6-dichloro-4-nitroaniline in a variety of soils are reported to range from 660 to 1100(1). A 2,6-dichloro-4-nitroaniline Koc value of 1000, based on measured data, is recommended for developing QSAR estimation methods(2). According to a classification scheme(3), these Koc values suggests that 2,6-dichloro-4-nitroaniline is expected to have low mobility in soil. Mobility is expected to increase in coarser soils(4).

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

### Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN2735 (For reference only, please check.)
IMDG: UN2735 (For reference only, please check.)
IATA: UN2735 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)
IMDG: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)
IATA: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)
IMDG: 8 (For reference only, please check.)
IATA: 8 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: I (For reference only, please check.)
IMDG: I (For reference only, please check.)
IATA: I (For reference only, please check.)

### Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## SECTION 16: Other information

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

**References**

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/