

## Chemical Safety Data Sheet MSDS / SDS

## Linuron SDS

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

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: Linuron  
CAS: 330-55-2

**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 4, Oral  
Carcinogenicity, Category 2

Specific target organ toxicity - repeated exposure, Category 2  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1  
Reproductive toxicity, Category 1B

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H302 Harmful if swallowed  
H351 Suspected of causing cancer  
H373 May cause damage to organs through prolonged or repeated exposure  
H410 Very 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.  
P203 Obtain, read and follow all safety instructions before use.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.

### Response

P301+P317 IF SWALLOWED: Get medical help.  
P330 Rinse mouth.  
P318 IF exposed or concerned, get medical advice.  
P319 Get medical help if you feel unwell.  
P391 Collect spillage.

### Storage

P405 Store locked up.

### 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:	Linuron
Common names and synonyms:	Linuron
CAS number:	330-55-2
EC number:	206-356-5
Concentration:	100%

**SECTION 4: First aid measures**

**Description of necessary first-aid measures**

**If inhaled**

Fresh air, rest.

**Following skin contact**

Rinse skin with plenty of water or shower.

**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. Rest. Refer for medical attention .

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

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Inhalation of Asbestos dust may have a damaging effect on the lungs. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. (ERG, 2016)

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

1. skin contamination should be removed promptly by washing with soap and water. contamination of the eyes should be treated immediately by prolonged flushing of the eyes with copious amounts of clean water. if dermal or ocular irritation persists, medical attention should be obtained without delay. other herbicides

### **SECTION 5: Firefighting measures**

#### **Suitable extinguishing media**

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO<sub>2</sub>, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high-pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2016)

#### **Specific hazards arising from the chemical**

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. For UN3508, be aware of possible short circuiting as this product is transported in a charged state. (ERG, 2016)

#### **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**

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. Personal protection: self-contained breathing apparatus.

### **Environmental precautions**

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. Personal protection: self-contained breathing apparatus.

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

NO open flames. 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. Store in cool, dry place .

## **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 spectacles.

**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:	Linuron is a colorless crystals. Non corrosive. Used as an herbicide.
Colour:	White crystalline solid
Odour:	ODORLESS
Melting point/freezing point:	93-94°C
Boiling point or initial boiling point and boiling range:	180-190°C
Flammability:	Combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	11°C
Auto-ignition temperature:	no data available

Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	PARTIALLY SOL IN TOLUENE
Partition coefficient n-octanol/water:	log Kow=3.20
Vapour pressure:	1.43X10 <sup>-6</sup> mm Hg @ 25 deg C
Density and/or relative density:	1.49 g/cm <sup>3</sup> (20°C)
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

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

### Chemical stability

It is stable at its melting point & in neutral aqueous media.

### Possibility of hazardous reactions

A urea derivative.

### Conditions to avoid

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity**

Oral: LD50 Rat female oral 4000 mg/kg in starch mucilage Technical linuron

Inhalation: LC50 Rat inhalation >4.06 mg/l air/4 hr

Dermal: LD50 Rabbit percutaneous greater than 5000 mg ai (as 50% wettable powder)/kg

**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**

Cancer Classification: Group C Possible Human Carcinogen

**Reproductive toxicity**

no data available



### **STOT-single exposure**

no data available

### **STOT-repeated exposure**

The substance may have effects on the blood. This may result in anaemia.

### **Aspiration hazard**

Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 Rainbow trout and bluegill sunfish 16 mg/L/96 hr

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

Most evidence indicates that linuron's loss in soil is due to biodegradation(1-2). Biodegradation is mainly cometabolic(1-2). Evidence for linuron's biodegradation in soil is found in the fact that degradation proceeds far slower in soil sterilized by heat or with chemicals(1). Loss of linuron also correlates with soil respiration(3). The degradation rate also is correlated with soil organic carbon content, adsorptivity and clay content(1,3). The rate of biodegradation increases as the concn of linuron in the soil decreases(4). The rate constant for the decomposition in soil increases as the square root of the concn at high concns and linear with the concn at low concns(2). At higher soil moistures and temperatures, linuron degrades faster(1,5). In most soils, at normal application rates, linuron degrades within 3-4 months(1). The half-lives of 4 ppm linuron incubated at 25 deg C in 18 mineral soils ranged from 22 to 86 days(5). The degradation rate of linuron in a sandy loam soil at 20 deg C was 0.0080 per day (half-life 87 days)(3).

### **Bioaccumulative potential**

Linuron residues accumulated in bluegill fish during 28 days of exposure to water treated at 0.1 and 1.0 ppm [C14] linuron(1). Maximum bioconcentration factors were 49 for whole fish, 34 for a muscle and 39 for carcass tissues. After 28 days of exposure,

linuron residues in the viscera were identified as desmethyl linuron, nortinuron, and glucuronide conjugates. The edible tissues were not analyzed for linuron residues. Residues rapidly declined to approximately 10% of maximum levels after the 14-day depuration period(1). In one bioaccumulation study, orange-red killifish were exposed to 0.02 to 0.2 mg/l of linuron for 28 days(2). At the end of the experiment, the BCF of linuron in the fish ranged from 13 to 23. According to a classification scheme(3), BCF values ranging from 13 to 49 suggest the potential for bioconcentration in aquatic organisms ranges from low to moderate.

#### **Mobility in soil**

Adsorption incr as clay content &/or org matter content of soil incr; clays of high /cation/ exchange capacity absorb more linuron than those of low exchange capacity. ... leaching is not believed to be an important factor in disappearance from most soils.

#### **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: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

#### **UN Proper Shipping Name**

ADR/RID: Not dangerous goods. (For reference only, please check.)  
IMDG: Not dangerous goods. (For reference only, please check.)  
IATA: Not dangerous goods. (For reference only, please check.)

#### **Transport hazard class(es)**

ADR/RID: Not dangerous goods. (For reference only, please check.)  
IMDG: Not dangerous goods. (For reference only, please check.)  
IATA: Not dangerous goods. (For reference only, please check.)

#### **Packing group, if applicable**

ADR/RID: Not dangerous goods. (For reference only, please check.)  
IMDG: Not dangerous goods. (For reference only, please check.)  
IATA: Not dangerous goods. (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)**

Not Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Not 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](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/>

### Other Information

If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties.

Disclaimer: 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. We as supplier shall not be held liable for any