Chemical Safety Data Sheet MSDS / SDS

Chlorotoluron 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: Chlorotoluron

CAS: 15545-48-9

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

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SECTION 2: Hazards identification

Classification of the substance or mixture

Carcinogenicity, 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 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H351 Suspected of causing cancer
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P318 IF exposed or concerned, get medical advice.
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:	Chlorotoluron
Common names and synonyms:	Chlorotoluron
CAS number:	15545-48-9
EC number:	239-592-2
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. 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

no data available

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

1. wash contaminated skin with soap & water. 2. flush contaminated eyes with copious amounts of fresh water for 15 minutes. 3. ingestions of small amounts (less than 10 mg/kg body weight) occurring less than an hour before treatment, are probably best treated by: a. syrup of ipecac, followed by 1-2 glasses of water. dose for adults & children over 12 years: 30 ml. dose for children under 12 years: 15 ml. b. activated charcoal: /prc: 30 g activated charcoal in 3-4 oz water (children), 100 g in 8-10 oz water (adult)/...after vomiting stops. c. sodium or magnesium sulfate, 0.25 g/kg in tap water, as a cathartic. pesticides of low or

moderate toxicity

SECTION 5: Firefighting measures

Suitable extinguishing media

Use water spray, foam, dry powder, carbon dioxide.

Specific hazards arising from the chemical

Combustible. Gives off irritating or toxic fumes (or gases) in a fire.

Special protective actions for fire-fighters

Use water spray, foam, dry powder, 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 let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder.

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

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. Store in an area without drain or sewer access. Separated from strong bases, strong acids and food and feedstuffs.

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:	COLOURLESS CRYSTALS OR WHITE POWDER.
Colour:	COLORLESS CRYSTALS
Odour:	ODORLESS
Melting point/freezing point:	147-148°C
Boiling point or initial boiling point and boiling range:	367.8°C at 760 mmHg
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:	176.2°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	IT IS SOLUBLE IN MOST ORGANIC SOLVENTS
Partition coefficient n-octanol/water:	Log Kow = 2.41
Vapour pressure:	1.33E-05mmHg at 25°C
Density and/or relative density:	1.218 g/cm3

Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

On combustion, forms toxic fumes. Reacts with strong acids and strong bases.

Chemical stability

Stable under normal conditions in neutral media. Hydrolyzed by strong acids and alkalis.

Possibility of hazardous reactions

On combustion, forms toxic fumes. Reacts with strong acids and strong bases.

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral greater than 10000 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

no data available

STOT-repeated exposure

Tumours have been detected in experimental animals but may not be relevant to humans. See Notes.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

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

Degradation of chlortoluron proceeds through the cleavage of the C-N bond as demonstrated using both soil and microbial culture studies(1). Chlortoluron had a half-life in soil of 4-6 weeks(2). The only metabolite identified in this study was monomethyl chlortoluron(2). A half-life of between 6-18 weeks was reported for chlortoluron(3). In biometer experiments, half-lives of 93 days and 40 days were measured for chlortoluron in a silty sand and silty loam soil, respectively(4). However, the disappearance of this compound in an outdoor lysimeter experiment was slower in silty loam (49 days, fallow land; 38 days, barley field) than in silty sand(52 days, fallow land; 14 days, barley field)(4). The main metabolite of chlortoluron degradation was N-dimethylated chlortoluron(4). Chlortoluron, applied as either a suspendible concentrate or wettable powder, had a calculated half-life of 96 days for both conditions in one soil (pH 5.1; organic carbon 4.1%; silt 16%; water holding capacity 27%); a second soil (pH 7.0; organic carbon 1.6%; silt 11% water holding capacity 16.6%) had calculated half-lives of 82 and 84 days for a suspendible concentrate and wettable powder, respectively(5).

Bioaccumulative potential

An estimated BCF value of 40 was calculated for chlortoluron(SRC), using an experimental log Kow of 2.41(1,SRC) and a recommended regression-derived equation(2). According to a classification scheme, this BCF value suggests that bioconcentration in aquatic organisms is moderate, not high(3). Winter wheat grown in soil containing 4.7 mg chlortoluron/kg dry soil had bioconcentration factors of 21 and 22 for root material and for shoots, respectively (bioconcentration factor is the concentration of 14C from the chlortoluron in the plant versus the soil)(4).

Mobility in soil

An average organic matter-water distribution of 60 was measured for seven soils (organic matter range 1.09-5.92%; pH range 5.9-7.5)(1). Seventeen soils from Australia had a range of organic matter-water distribution values for this compound from 25-85, giving Koc values ranging from 1-3467 (organic matter range 0.19-6.62; pH range 4.8-8.4)(2). Leaching was studied following field application of chlortoluron to a sandy soil; after 10 cm of rain had fallen, >2 mg/kg, 1 mg/kg, 0.5 mg/kg, and a trace remained in the 0-2.5, 2.5-5, 5-7.5, and 7.5-10 cm depth, respectively(2). Chlortoluron has measured Koc values ranging from 146-346 for eight Czechoslovakian soils (mean=228), with higher values corresponding to soils with a greater content of organic matter(3). Koc values of 271 and 419 were measured for a loamy sand and a mucky peat soil, respectively, at 25 deg C(4). According to a recommended classification scheme(5), these estimated Koc values suggest that chlortoluron has moderate mobility in soil(SRC). Adsorption of chlortoluron corresponds to an L-isotherm indicating that as the solution concentration increases, there is a decrease

in site availability(6). Chlortoluron, applied at a rate of 2.0 kg/ha to sandy soil monoliths containers, had a measured Koc of 160 and 113 in the A and B horizons, respectively(7). The addition of liquid manure, increasing the organic carbon content, resulted in reduced mobility(7).

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)

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/

Other Information

Tumors of kidney and liver were observed at high dose levels in mice.The substance is combustible but no flash point is available in literature.