

According to the UN GHS revision 8

Creation Date: April 20, 2026

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1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Chlorotoluron

Catalog Number: T19895

CAS Number: 15545-48-9

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

2. HAZARD IDENTIFICATION

2.1 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

2.2 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.

2.3 Other hazards which do not result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Chlorotoluron	-	15545-48-9	239-592-2

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

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.

4.2 Most important symptoms/effects, acute and delayed

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

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

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Specific hazards arising from the chemical

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

5.3 Special protective actions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

6.1 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.

6.2 Environmental precautions

A DRUG SCREENING EXPERT

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.

6.3 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.

7. HANDLING AND STORAGE

7.1 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.

7.2 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.

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 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.

8.3 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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	no data available
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	DMSO: 55 mg/mL (258.6 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
N-octanol-water partition coefficient	Log Kow = 2.41
Vapour pressure	1.33E-05mmHg at 25°C
Density and/or relative density	1.218 g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

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

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

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.

12. ECOLOGICAL INFORMATION

12.1 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

12.2 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).

12.3 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).

12.4 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).

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 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.

14. TRANSPORT INFORMATION

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 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.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Not Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

16. OTHER INFORMATION

Information on revision

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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.

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 damage resulting from handling or from contact with the above product. All products are for Research Use Only · Not For Human or Veterinary or Therapeutic Use