

Chemical Safety Data Sheet MSDS / SDS

Propanil 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: Propanil
CAS: 709-98-8

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
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Telephone: +91 9550333722

SECTION 2: Hazards identification**Classification of the substance or mixture**

Acute toxicity - Category 4, Oral
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed

H400 Very toxic to aquatic life

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P391 Collect spillage.

Storage

none

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:	Propanil
Common names and synonyms:	Propanil
CAS number:	709-98-8
EC number:	211-914-6
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention. See Notes.

Following skin contact

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

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible).

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention . See Notes.

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

Skin decontamination. Skin contamination should be treated promptly by washing with soap and water. Contamination of the eyes should be treated immediately by prolonged flushing of the eyes with large 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

Suitable Extinguishing Media: Use dry chemicals, carbon dioxide and foam. Propanil 80DF

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

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 sealable 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 let this chemical enter the environment. Sweep spilled substance into covered sealable 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

Large spillages should be dammed-off and pumped into containers; soak up remainder with absorbent material and dispose of in accordance with local 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

Keep in a well-ventilated room. Store only in original container. Store in an area without drain or sewer access. Do not contaminate water, food, or feed by storage or disposal. Propanil 80DF

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 or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Avoid inhalation of dust and mist. Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Propanil is a colorless to brown crystals. Non corrosive. Used as an herbicide.
Colour:	White crystalline solid /Purity not provided/
Odour:	Odorless
Melting point/freezing point:	92-93°C
Boiling point or initial boiling point and boiling range:	369.9°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:	177.5°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Solubility in water at room temperature: 225 ppm
Partition coefficient n-octanol/water:	log Kow = 3.07
Vapour pressure:	0.121 mPa (9.08X10 ⁻⁷ mm Hg) at 25 deg C; 12 mPa (9.0X10 ⁻⁵ mm Hg) at 60 deg C
Density and/or relative density:	1.25

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 hydrogen chloride and nitrogen oxides.

Chemical stability

Stable at normal pH range: DT50 (22 deg C) >>1 yr (pH 4, 7, 9). Rapidly degraded in water by sunlight; photolysis DT50 12-13 hr.

Possibility of hazardous reactions

PROPANIL is incompatible with carbamates and organophosphates.

Conditions to avoid

no data available

Incompatible materials

Incompatible with a number of pesticides, particularly carbamates. Should not be applied with liquid fertilizers or within 14 days before or after application of organic phosphate insecticides.

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 Dog oral 1217 mg/kg

Inhalation: LC50 Rat inhalation >1.25 mg/L air/4 hr

Dermal: LD50 Rabbit percutaneous 7080 mg/kg in corn oil

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: Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential

Reproductive toxicity

no data available

STOT-single exposure

The substance may cause effects on the central nervous system and blood. See Notes. This may result in the formation of methaemoglobin. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

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

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: *Lepomis cyanellus* (Green sunfish); Conditions: static; Concentration: 9.10 mg/L for 24 hr /formulated product

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water Flea) age <24 hr; Conditions: freshwater, flow through; Concentration: 1200 ug/L for 48 hr (95% confidence interval: 1000-1300 ug/L); Effect: intoxication, immobilization /44% purity formulation

Toxicity to algae: EC50; Species: *Chlorella vulgaris* (Green Algae); Conditions: freshwater, static, 24 deg C; Concentration: 5980 ug/L for 72 hr (95% confidence interval: 5130-6870 ug/L); Effect: decreased population growth rate /97.5% purity

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Propanil, present at 100 mg/L, reached 21.1% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). In a sandy loam soil, 50% CO₂ evolution was observed for propanil (initial concentration 436 ppm) after 8 days at 28 deg C and pH 6(2). Propanil, present at 2000 ppm, degraded 84 and 96% after 5 and 10 days, respectively, incubated at 28 deg C and pH 5.3(3); 83.6-93.2% degradation was observed after 7 days at 27 deg C and pH 5.5 (initial concentration of 500 ppm)(4). At initial concentrations of 85 and 850 ppm, propanil degraded 99 and 64.7-70.6%, respectively, in 15 days in rice paddy soils at pHs 5.2-6.3 and 30 deg C(5). The sterile controls in this study showed 0.3-2.5% CO₂ evolution in 25 days(5). Propanil's half-life in soil at 28 deg C was determined to be 0.1 and 2.3 days at initial concentrations of 10 and 250 ppm, respectively(6).

Bioaccumulative potential

A whole-fish BCF of 1.6 was determined for fathead minnows (*Pimephales promelas*) in a flow-through test with 24 hr of exposure; only 1.8% of the total tissue radio-labeled carbon was extractable as propanil(1). According to a classification scheme(2), this BCF suggests bioconcentration in aquatic organisms is low(SRC). Rainbow trout (*Salmo gairdneri*) readily metabolized propanil to 10 metabolites when radio-labeled propanil was injected into the peritoneum(1). One metabolite was identified as either 3',4'-dichloro-2-hydroxypropionanilide or 3,4'-dichloro-3-hydroxypropionanilide(1).

Mobility in soil

Koc values ranging from 141 to 800 have been reported for propanil(1,2). Koc values of 306 (sand) and 800 (silt loam) were also reported for propanil(3). According to a classification scheme(4), these Koc values suggest that propanil is expected to have high to low mobility in soil. Based on a soil thin-layer chromatography R_f value of 0.24 measured in a silty clay loam, propanil was classified as having low soil mobility(5).

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: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (For reference only, please check.)

Packing group, if applicable

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

Not 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

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. If the substance is formulated with solvents also consult the ICSCs of these materials. Carrier solvents used in commercial formulations may change physical and toxicological properties. Isolate contaminated clothing by sealing in a bag or other container.

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