Safety Data Sheet



According to the UN GHS revision 8

Creation Date: May 29, 2024 Revision Date: May 29, 2024

1. IDENTIFICATION

1.1 GHS Product identifier

Catalog Number: T20622

CAS Number: 72178-02-0

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.

Uses advised against: 36 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 -5hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral

2.2 GHS label elements, including precautionary statements

Pictogram(s):

!

Signal word: Warning

Hazard statement(s): H302 Harmful if swallowed

Precautionary statement(s):

Prevention: P264 Wash ... thoroughly after handling.

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

Response: P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

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.

2.3 Other hazards which do not resultin classification

no data available

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COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Fomesafen	-	72178-02-0	276-439-9

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms/effects, acute and delayed

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

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 dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff. Reflex Herbicide

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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6.3 Methods and materials for containment and cleaning up

Do not contaminate water when disposing of equipment washwater or rinsate. Reflex Herbicide

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

Store above 32 deg F in original containers only. If product freezes, return to room temperature and agitate to reconstitute. Keep container closed when not in use. Do not store near food or feed. Reflex Herbicide

EXPOSURE CONTROLS/PERSONAL PROTECTION 8.

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-

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

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

PHYSICAL AND CHEMICAL PROPERTIES

Physical state Fomesafen is a white crystalline solid. Used as an herbicide.

Color White crystalline solid

Odour no data available

Melting point/ freezing point 220-221°C

Boilingpoint or initial boiling point

no data available and boiling range

Flammability no data available

Lower and upper explosion

no data available limit/flammability limit

Flash point no data available

Auto-ignition temperature no data available

Decomposition temperature no data available

Page 3 of 7 www.targetmol.com **pH** no data available

Kinematic viscosity no data available

Solubility DMSO: 50 mg/mL (113.96 mM),

N-octanol-water partition

coefficient

log Kow = 2.9 at pH 1

Vapour pressure <4X10-3 mPa /<3.0X10-8 mm Hg/ at 20 deg C

Density and/ or relative density 1.574 g/cm3

Relative vapour density no data available

Particle characteristics no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No rapid reaction with air. No rapid reaction with water.

10.2 Chemical stability

Stable in storage for at least 6 months at 50 degrees C

10.3 Possibility of hazardous reactions

FOMESAFEN is incompatible with acids.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic vapors of /sulfur oxides, nitrogen oxides, hydrogen fluoride and hydrogen chloride/.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 Rat (male) oral 1860 mg/kg Fomesafen-sodium Inhalation: LC50 Rat (male) inhalation 4.97 mg/L /4 hr

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

no data available

Aspiration hazard

no data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill); Conditions: freshwater, static; Concentration: 6030000 ug/L for 96 hr /25% purity

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water Flea, 1st instar larva); Conditions: freshwater, static; Concentration: 294000 ug/L for 48 hr (95% confidence interval: 276000-320000 ug/L); Effect: intoxication, immobilization /97% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: In laboratory soil studies under aerobic conditions, half-lives range from about 6 months to >12 months depending on soil type (1).

12.3 Bioaccumulative potential

A measured BCF of 6 was reported for fomesafen in bluegill (Lepomis macrochirus) which were exposed over a 28 day period(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Kom values of 86 and 700 were determined for fomesafen in Drummer silt loam and Norfolk sandy loam, respectively(1). These values correspond to Koc values of 150 and 1200, respectively(2). Koc values of 34 to 164(3) and 60(4) were also reported. According to a classification scheme(5), these Koc values suggest that fomesafen is expected to have very high to low mobility in soil(SRC). Sorption of fomesafen by both soils increased as pH decreased: on the Drummer soil sorption increased from 14% at pH 6.3 to 42% at pH 4.7 and 95% at pH 2.0; on the Norfolk soil, fomesafen sorption increased from 5% at pH 5.3 to 15% at pH 4.0 and 55% at pH 2.0(1). The pKa of fomesafen is 2.83(3), indicating that this compound will exist almost entirely in anion form in the environment (pH 5 to 9) and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(6). In laboratory soil studies, fomesafen was moderately mobile(7). Fomesafen had a mean reported Kd of 4.52 in 5 soil types(8).

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	Not Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Not 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)	Not 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

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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

no data available

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

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