

According to the UN GHS revision 8

Creation Date: May 22, 2024

Revision Date: May 22, 2024

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Dalapon

Catalog Number: T31194

CAS Number: 75-99-0

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

Skin irritation, Category 2

Serious eye damage, Category 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

2.2 GHS label elements, including precautionary statements

Pictogram(s):



Signal word: Danger

Hazard statement(s):
H315 Causes skin irritation
H318 Causes serious eye damage
H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s):

Prevention:

P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response:

P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

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 result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Dalapon	-	75-99-0	200-923-0

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. 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

Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention.

4.2 Most important symptoms/effects, acute and delayed

Treatment is symptomatic and supportive. Oils should not be used as either cathartics or dermal cleansing agents, as they increase absorption. Gastric lavage and use of activated charcoal and sodium sulfate are indicated for ingestion. If dermal exposure occurred, contaminated clothes should be removed, and the skin should be thoroughly cleansed with soap and water. Management of seizures in both children and adults is with Valium or phenobarbital. Respiratory depression and even respiratory arrest, especially with concomitant use of Valium and phenobarbital in children, may occur. These drugs preferably should be used only in critical care areas where emergency endotracheal intubation can be performed. /It is recommended/ that epinephrine not be utilized in patients with organochlorine poisoning, as the organochlorines induce myocardial irritability and ventricular arrhythmias may occur. However, dopamine may be necessary in the event of hypotension unresponsive to fluid administration, and epinephrine may be necessary in the event of cardiopulmonary arrest. Organochlorine insecticides

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

VAPOR: Irritating to eyes, nose and throat. LIQUID: Will burn skin and eyes. Harmful if swallowed. (USCG, 1999)

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Extinguish with dry chemical, alcohol foam or carbon dioxide.

5.2 Specific hazards arising from the chemical

Combustible. Irritating fumes of hydrochloric acid may form in fire. Volatilizes with steam. (USCG, 1999)

5.3 Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

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. If liquid: collect leaking liquid in sealable containers as far as possible. If solid: sweep spilled substance into containers. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

If liquid: collect leaking liquid in sealable containers as far as possible. If solid: sweep spilled substance into containers. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: particulate filter respirator adapted to the airborne concentration of the substance.

6.3 Methods and materials for containment and cleaning up

Spills of pesticides at any stage of their storage or handling should be treated with great care. Liquid formulations may be reduced to solid phase by evaporation. Dry sweeping of solids is always hazardous: These should be removed by vacuum cleaning or by dissolving them in water or other solvent in the factory environment. In the field, they may be washed away with water into a suitable soak-hole. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with a impermeable flexible membrane liner. / Pesticides

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

Separated from food and feedstuffs. Dry. Well closed. Keep container tightly closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

TLV: (inhalable fraction): 5 mg/m³, as TWA; A4 (not classifiable as a human carcinogen)

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 or eye protection in combination with breathing protection.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

2,2-dichloropropionic acid is a colorless liquid. Soluble in water. Corrosive to metals and tissue. Used as a herbicide.

Color

Liquid

Odour

Acrid odor.

Melting point/ freezing point	124°C(lit.)
Boilingpoint or initial boiling point and boiling range	94°C/20mmHg(lit.)
Flammability	Noncombustible Liquid
Lower and upper explosion limit/flammability limit	no data available
Flash point	90°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	(Aq): 1.32 (0.099 N, 23 deg C)
Kinematic viscosity	no data available
Solubility	no data available
N-octanol-water partition coefficient	log Kow= 0.78
Vapour pressure	5.07 mm Hg at 160° F (USCG, 1999)
Density and/ or relative density	1.4014
Relative vapour density	4.9 (USCG, 1999) (Relative to Air)
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Attacks aluminium, copper and their alloys.

10.2 Chemical stability

Subject to hydrolysis; slight at 25 deg C, but comparatively rapid ≥ 50 deg C; so aqueous solutions should not be kept for any length of time. Alkali causes dehydrochlorination above 120 deg C.

10.3 Possibility of hazardous reactions

NONFLAMMABLE These organic compounds donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt. Carboxylic acids with six or fewer carbon atoms are freely or moderately soluble in water; those with more than six carbons are slightly soluble in water. Soluble carboxylic acids dissociate to an extent in water to yield hydrogen ions. The pH of solutions of carboxylic acids is therefore less than 7.0. Many insoluble carboxylic acids react rapidly with aqueous solutions containing a chemical base and dissolve as the neutralization generates a soluble salt. Carboxylic acids in aqueous solution and liquid or molten carboxylic acids can react with active metals to form gaseous hydrogen and a metal salt. Such reactions occur in principle for solid carboxylic acids as well, but are slow if the solid acid remains dry. Even "insoluble" carboxylic acids may absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Carboxylic acids, like other acids, react with cyanide salts to generate gaseous hydrogen cyanide. The reaction is slower for dry, solid carboxylic acids. Insoluble carboxylic acids react with solutions of cyanides to cause the release of gaseous hydrogen cyanide. Flammable and/or toxic gases and heat are generated by the reaction of carboxylic acids with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Carboxylic acids, especially in aqueous solution, also react with sulfites, nitrites, thiosulfates (to give H₂S and SO₃), dithionites (SO₂), to generate flammable and/or toxic gases and heat. Their reaction with carbonates and bicarbonates generates a harmless gas (carbon dioxide) but still heat. Like other organic compounds, carboxylic acids can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. A wide variety of products is possible. Like other acids, carboxylic acids may initiate polymerization reactions; like other acids, they often catalyze (increase the rate of) chemical reactions. 2,2-DICHLOROPROPIONIC ACID is incompatible with the following: Very corrosive to aluminum and copper alloys.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Should not be used in combination with oils or contact herbicides, as activity will be diminished due to reduction in translocation.

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen chloride/.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 Rat (male) oral 7126 mg/kg

Inhalation: no data available

Dermal: LD50 Rabbit percutaneous >2000 mg/kg Dalapon sodium salt, 85% formulation

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

A4; Not classifiable as a human carcinogen.

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

STOT-repeated exposure

no data available

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50 *Lepomis macrochirus* (Bluegill) 105 mg/L/96 hr @ 24 deg C; 1.0 g. Static bioassay without aeration, pH 7.2-7.5, water hardness 40-50 mg/L as calcium carbonate and alkalinity of 30-35 mg/L.

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

Soils buffered to pH 6.5 provided optimum conditions for microbial adaptation & herbicide degradation. inactivation ... slower @ pH 7.5 & 5.3 & neg detoxication ... @ pH 4.3. dalapon phytotoxicity in high org soils incr as pH decr & reached max @ pH 4.3 ...

12.3 Bioaccumulative potential

The BCF measured for dalapon (sodium salt) during a 3-day exposure in an aquarium was 3 for fish and less than one for snails(1). BCF's of less than one have been measured for poultry, rodents, dogs, and cows(2). According to a classification scheme(3), these BCF data suggest that bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Using Hagerstown silty clay loam soil, dalapon had a measured Rf value of 0.96 by means of soil thin-layer chromatography which is indicative of very high soil mobility(1). Dalapon was found to be readily mobile in four types of soil when applied at 8 lb/acre(2). Very little adsorption was observed in 3 silty loam soils or a silty clay loam soil in soil column leaching tests, with increased mobility noted with

A DRUG SCREENING EXPERT

the addition of sand and decreased mobility with the addition of manure(3). Virtually complete leaching was observed through an 8.5 inch soil column of Kawkawlin sandy loam(4). Moderate to rapid leaching has been reported for most Hawaiian soils developed from volcanic materials(5). Dalapon has been reported to leach readily in soil(6). The soil Koc of dalapon was reported as 1-2(7). According to a classification scheme(8), these data suggest that dalapon is expected to have very high mobility in soil(SRC).

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

16. OTHER INFORMATION

Information on revision

Creation Date May 22, 2024

Revision Date May 22, 2024

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

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