

CAS No: 94-75-7
 RTECS No: AG6825000
 UN No: 3077
 EC No: 607-039-00-8

2,4-Dichlorophenoxyacetic acid
 2,4-D acid
 $C_8H_6Cl_2O_3$ / $Cl_2C_6H_3OCH_2COOH$
 Molecular mass: 221.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO contact with oxidants.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		STRICT HYGIENE!	
Inhalation	Headache. Nausea. Weakness. Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Burning sensation. Diarrhoea. Headache. Nausea. Vomiting. Weakness. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention.

SPILLAGE DISPOSAL

Personal protection: P2 filter respirator for harmful particles. Do NOT let this chemical enter the environment. Sweep spilled substance into covered plastic containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.

PACKAGING & LABELLING

EU classification
 Xn Symbol
 R: 22-37-41-43-52/53
 S: (2-)24/25-26-36/37/39-46-61
UN classification
 UN Hazard Class: 9
 UN Pack Group: III

Do not transport with food and feedstuffs. Marine pollutant.

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-90GM7-III

SAFE STORAGE

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

IMPORTANT DATA

Physical State; Appearance

COLOURLESS CRYSTALS OR WHITE POWDER

Chemical dangers

The substance decomposes on heating producing toxic fumes including hydrogen chloride. Reacts with strong oxidants causing fire and explosion hazard. Attacks some forms of coatings and metals.

Occupational exposure limits

TLV: 10 mg/m³ as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2005).

MAK: (Inhalable fraction) 1 mg/m³; skin absorption (H); Peak limitation category: II(8); Pregnancy risk group: C; (DFG 2005).

Routes of exposure

The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

Inhalation risk

A harmful concentration of airborne particles can be reached quickly on spraying or when dispersed, especially if powdered.

Effects of short-term exposure

The substance is irritating to the skin and the respiratory tract and the eyes. At high levels the substance may cause effects on the nervous system.

Effects of long-term or repeated exposure

(See Notes).

PHYSICAL PROPERTIES

Decomposes below boiling point
Melting point: 140/C
Relative density (water = 1): 0.7 - 0.8

Solubility in water, g/100 ml at 25/C: 0.031 (very poor)
Vapour pressure, Pa at 25/C: 0.01 (negligible)
Octanol/water partition coefficient as log Pow: 2.81

ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms. This substance does enter the environment under normal use. Great care, however, should be given to avoid any additional release, e.g. through inappropriate disposal.

NOTES

2,4-D is a chlorophenoxy-herbicide which, as a group, has been classified by IARC (1987) as possibly carcinogenic to humans, but the data on this specific substance are inconclusive.

Carrier solvents used in commercial formulations may change physical and toxicological properties.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information