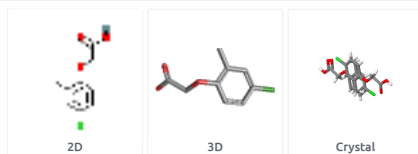


(4-Chloro-2-methylphenoxy)acetic acid

PubChem CID: 7204

Structure:

[Find Similar Structures](#)

Chemical Safety:

[Laboratory Chemical Safety Summary \(LCSS\) Datasheet](#)Molecular Formula: $C_9H_9ClO_3$

Synonyms:

MCPA
94-74-6
Agroxone
2-METHYL-4-CHLOROPHENOXYACETIC ACID
(4-Chloro-2-methylphenoxy)acetic acid

[More...](#)

Molecular Weight: 200.62 g/mol

Dates:

Modify: Create:
2020-02-26 2005-03-26

(4-chloro-2-methylphenoxy)acetic acid is a chlorophenoxyacetic acid that is [\(4-chlorophenoxy\)acetic acid](#) substituted by a [methyl](#) group at position 2. It has a role as a herbicide, a synthetic auxin and an environmental contaminant. It is a chlorophenoxyacetic acid and a member of monochlorobenzenes.

[▶ ChEBI](#)

A powerful herbicide used as a selective weed killer.

[▶ MeSH](#)

11 Safety and Hazards




11.1 Hazards Identification



11.1.1 GHS Classification



Showing 1 of 5 [View More](#)

Pictogram(s)	 Corrosive Irritant Environmental Hazard
Signal	Danger
GHS Hazard Statements	H302: Harmful if swallowed [Warning Acute toxicity, oral] H315: Causes skin irritation [Warning Skin corrosion/irritation] H318: Causes serious eye damage [Danger Serious eye damage/eye irritation] H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]
Precautionary Statement Codes	P264, P270, P273, P280, P301+P312, P302+P352, P305+P351+P338, P310, P321, P330, P332+P313, P362, P391, and P501 (The corresponding statement to each P-code can be found at the GHS Classification page.)

► [EU REGULATION \(EC\) No 1272/2008](#)

11.1.2 Fire Hazard



Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion if formulations contain flammable/explosive solvents.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.1.3 Fire Potential



Nonflammable

Sax, N.I. Dangerous Properties of Industrial Materials Reports. New York: Van Nostrand Reinhold, 1987., p. 8:6/1988

► [HSDB](#)

11.1.4 Skin, Eye, and Respiratory Irritations



/SRP: Irritation of skin, eyes, nose, and throat may also occur./

► [HSDB](#)

11.2 First Aid Measures



11.2.1 Inhalation First Aid



Fresh air, rest. Refer for medical attention.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.2.2 Skin First Aid



Remove contaminated clothes. Rinse and then wash skin with **water** and soap. Refer for medical attention .

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.2.3 Eye First Aid



Rinse with plenty of **water** (remove contact lenses if easily possible). Refer immediately for medical attention.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.2.4 Ingestion First Aid



Rinse mouth. Give one or two glasses of **water** to drink. Refer immediately for medical attention.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.3 Fire Fighting



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

► [ILO International Chemical Safety Cards \(ICSC\)](#)

11.4 Accidental Release Measures



11.4.1 Spillage Disposal



12.1.13 Human Toxicity Excerpts

SYMPTOMATOLOGY: 1. FATIGUE, WEAKNESS, ANOREXIA; PERHAPS NAUSEA, VOMITING & DIARRHEA. 2. LETHARGY PROGRESSING TO COMA, WITH CONSTRICTED PUPILS (MIOSIS). 3. FLACCID PARALYSIS ... DESCRIBED IN ONE COMATOSE PATIENT & GRAND MAL CONVULSIONS WITH OPISTHOTONUS IN ANOTHER. /2,4-D/

Gosselin, R.E., R.P. Smith, H.C. Hodge. Clinical Toxicology of Commercial Products. 5th ed. Baltimore: Williams and Wilkins, 1984., p. III-133

▶ HSDB

SYMPTOMATOLOGY: 7. PROGRESSIVE HYPOTENSION WITH DEATH IN PERIPHERAL VASCULAR COLLAPSE, PERHAPS ASSOC WITH ACIDOSIS DUE TO LACTIC ACIDEMIA & OTHER PRODUCTS OF HYPERMETABOLISM. 8. IN NONFATAL POISONING SEVERE & PROTRACTED.../PRC: NEUROPATHY/ WITH PAIN & PARESTHESIAS ... MUSCLE FASCICULATIONS. 8. CHRONIC EXPOSURE MAY LEAD TO CNS DEFECTS IN CONTROL OF MOTOR FUNCTION. /2,4-D/

Gosselin, R.E., R.P. Smith, H.C. Hodge. Clinical Toxicology of Commercial Products. 5th ed. Baltimore: Williams and Wilkins, 1984., p. III-133

▶ HSDB

SYMPTOMATOLOGY: 5. PROGRESSIVE DECLINE IN BLOOD PRESSURE WITH DEATH IN DEEP COMA. ... 6. DISTURBANCES IN BODY TEMP REGULATION MAY BE ENCOUNTERED. ... SEVERE REDUCTION OF BODY TEMP IN COOL OR COLD ENVIRONMENTS. MORE PROBABLY FEBRILE RESPONSES IN WARM ENVIRONMENTS OR DURING EXERCISE. /2,4-D/

Gosselin, R.E., R.P. Smith, H.C. Hodge. Clinical Toxicology of Commercial Products. 5th ed. Baltimore: Williams and Wilkins, 1984., p. III-133

▶ HSDB

... A 61 YR OLD MAN DRANK MCPA ... SHORTLY AFTERWARD, HE VOMITED, HIS SPEECH BECAME SLURRED, HIS FACE BEGAN TO TWITCH, & HIS LIMBS BEGAN TO JERK. ON ARRIVAL AT HOSPITAL, HE WAS DEEPLY UNCONSCIOUS, ALTHOUGH IT WAS ONLY 1.5 HOURS SINCE HE HAD BEEN ASYMPTOMATIC. ... PUPILS WERE CONSTRICTED & ... /DID NOT RESPOND TO LIGHT/. REFLEXES WERE DIMINISHED. THERE WAS GENERALIZED FIBRILLARY TWITCHING OF SKELETAL MUSCLE & CLONIC SPASMS OF LIMBS. ... IN ADDITION TO CNS ABNORMALITIES, & IRRITATION OF UPPER GI TRACT, EVIDENCE OF KIDNEY & LIVER INJURY WERE OBSERVED, AS WELL AS ANEMIA & PNEUMONIA. PROTEINURIA WAS PRESENT DURING 1ST TWO WEEKS. AFTER 1 WK, GLYCOSURIA ... APPEARED & GRADUALLY SUBSIDED ...

Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 534

▶ HSDB

For more Human Toxicity Excerpts (Complete) data for 2-METHYL-4-CHLOROPHENOXYACETIC ACID (10 total), please visit the [HSDB record page](#).

▶ HSDB

12.1.14 Non-Human Toxicity Excerpts

FEMALE MICE FED TECHNICAL MCPA @ 5, 25, & 100 MG/KG/DAY ON DAYS 6-15 OF GESTATION. LITTER & MEAN PUP WT WERE REDUCED @ 100 MG/KG/DAY, BUT NO MAJOR MALFORMATIONS ... OBSERVED.

National Research Council. Drinking Water & Health Volume 1. Washington, DC: National Academy Press, 1977., p. 516

▶ HSDB

IN 90 DAY FEEDING STUDY OF MCPA IN RATS, GROWTH RETARDATION & INCR KIDNEY: BODY WT RATIOS ... OBSERVED @ 400 PPM OR MORE. IN ANOTHER 90-DAY FEEDING STUDY IN CHARLES RIVER RATS, SIGNIFICANT GROWTH DECREASE WAS OBSERVED WITH TECHNICAL MCPA AT 100 PPM, & HISTOPATHOLOGIC ALTERATIONS OF LIVER & KIDNEYS WERE SEEN IN BOTH SEXES AT 25 PPM OR HIGHER.

National Research Council. Drinking Water & Health Volume 1. Washington, DC: National Academy Press, 1977., p. 514

▶ HSDB

MALE SPRAGUE DAWLEY RATS WERE GIVEN 100-3000 MG/L IN DRINKING WATER OVER 9 WK PERIOD & KILLED IMMEDIATELY AFTER TREATMENT. EXPOSURE ASSOC WITH DECR WATER CONSUMPTION, DELAYED WT GAIN, & INCR IN RELATIVE WT OF LIVER, BRAIN, KIDNEYS & ADRENALS. MOST OF THESE CHANGES WERE OBSERVED AT 1000 MG/L OR HIGHER. ADDNL OBSERVATIONS WERE PARENCHYMAL CELL DEGENERATION & MODERATE & UNSPECIFIC HYPEREMIA IN LIVER, & DISAPPEARANCE OF WHITE PULP WITH MARKED LYMPHOCYTE DEPLETION IN SPLEEN.

[PMID:890150](#)

HATTULA ML ET AL; BULL ENVIRON CONTAM TOXICOL 18 (2): 152 (1977)

▶ HSDB

DERMAL APPLICATION OF MCPA TO RABBITS CAUSED ... ERYTHEMA & LOSS OF ELASTICITY OF THE SKIN AT A WIDE RANGE OF DOSAGES. ... HIGH MORTALITY, WT LOSS, & HISTOLOGICAL CHANGES IN LIVER, KIDNEYS, SPLEEN, & THYMUS WERE CAUSED BY DAILY DERMAL APPLICATIONS AT RATES OF 1000 & 2000 MG/KG/DAY. WT LOSS OCCURRED AT 500 MG/KG/DAY.

Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ HSDB

For more Non-Human Toxicity Excerpts (Complete) data for 2-METHYL-4-CHLOROPHENOXYACETIC ACID (27 total), please visit the [HSDB record page](#).

▶ HSDB

12.1.15 Non-Human Toxicity Values

LD50 Rat male oral 700 mg/kg

Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ HSDB

LD50 Rat oral 800 mg/kg

Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ HSDB

LD50 Rat male sc 500 mg/kg

Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ HSDB

LD50 Rat ip 300 mg/kg

Hayes, Wayland J., Jr. *Pesticides Studied in Man*. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ [HSDB](#)

LD50 Mouse oral 550 mg/kg

Hayes, Wayland J., Jr. *Pesticides Studied in Man*. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ [HSDB](#)

LD50 Mouse ip 350 mg/kg

Hayes, Wayland J., Jr. *Pesticides Studied in Man*. Baltimore/London: Williams and Wilkins, 1982., p. 533

▶ [HSDB](#)

LD50 Rat percutaneous >1000 mg/kg

Worthing, C.R. and S.B. Walker (eds.). *The Pesticide Manual - A World Compendium*. 8th ed. Thornton Heath, UK: The British Crop Protection Council, 1987., p. 514

▶ [HSDB](#)

LD50 Rat oral 700 mg/kg

Lewis, R.J. *Sax's Dangerous Properties of Industrial Materials*. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 791

▶ [HSDB](#)

LD50 Mouse oral 439 mg/kg

Lewis, R.J. *Sax's Dangerous Properties of Industrial Materials*. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 791

▶ [HSDB](#)

LD50 Mouse iv 28 mg/kg

Lewis, R.J. *Sax's Dangerous Properties of Industrial Materials*. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 791

▶ [HSDB](#)

12.1.16 Ecotoxicity Values



LC50 LEPOMIS MACROCHIRUS (BLUEGILL) MORE THAN 10 MG/L/96 HR @ 24 °C, FINGERLING. 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. /LIQUID CONCENTRATE 27.6%/

U.S. Department of Interior, Fish and Wildlife Service. *Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates*. Resource Publication No. 137. Washington, DC: U.S. Government Printing Office, 1980., p. 62

▶ [HSDB](#)

LC50 Salmo gairdneri (Rainbow trout) 232 mg/l/96 hr /Conditions of bioassay not specified/

Hartley, D. and H. Kidd (eds.). *The Agrochemicals Handbook*. 2nd ed. Lechworth, Herts, England: The Royal Society of Chemistry, 1987., p. A253/Aug 87

▶ [HSDB](#)

TLm Crassostrea virginica (American oyster) 3.13X10+4 ppb/14 day, larvae, static lab bioassay

Verschueren, K. *Handbook of Environmental Data of Organic Chemicals*. 2nd ed. New York, NY: Van Nostrand Reinhold Co., 1983., p. 841

▶ [HSDB](#)

LC50 Lepomis macrochirus (Bluegill) 1500 ug/l/48 hr /Conditions of bioassay not specified/

Verschueren, K. *Handbook of Environmental Data of Organic Chemicals*. 2nd ed. New York, NY: Van Nostrand Reinhold Co., 1983., p. 841

▶ [HSDB](#)

12.2 Ecological Information



12.2.1 EPA Ecotoxicity



Pesticide Ecotoxicity Data from EPA

▶ [EPA Pesticide Ecotoxicity Database](#)

12.2.2 ICSC Environmental Data



The substance is very toxic to aquatic organisms. This substance does enter the environment under normal use. Great care, however, should be taken to avoid any additional release, for example through inappropriate disposal.