

**SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION**Catalog No.  
L09648

**Product Name:** 4-(2,4-Dichlorophenoxy)butyric acid, 95%  
**Synonyms:** 2,4-DB

**Manufacturer/Supplier Name:** Alfa Aesar - A Johnson Matthey Company  
**Address:** 30 Bond St.  
Ward Hill, MA 01835

**Business Phone:** 978-521-6300

**Business Fax:** 978-521-6350

**For information**

**in North America, call:** 978-521-6300

**CHEMTREC Numbers:**

**For emergencies in the US, call CHEMTREC: 800-424-9300**

**For emergencies outside US, call INTERNATIONAL: (703)527-3887**

**For Nonemergency, call: (800)262-8200**

[To Top of page](#)**SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS**

Catalog No. L09648

**Chemical Name** 4-(2,4-Dichlorophenoxy)butyric acid  
**CAS#** 94-82-6  
**% Weight (Typical)** 95

[To Top of page](#)**SECTION 3 : HAZARDS IDENTIFICATION**

Catalog No. L09648

**Emergency Overview:** Reproductive effects. Mutation data.

**4-(2,4-Dichlorophenoxy)butyric acid:**

**Route of Exposure:** Eyes. Skin. Ingestion.

**Potential Health Effects:**

**Eye Contact:** May cause eye irritation.

**Skin Contact:** Toxic.

**Inhalation:** No data

**Ingestion:** Harmful by ingestion.

**Target Organs:** Eyes. Skin. G.I. Tract. Reproductive System.

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**SECTION 4 : FIRST AID MEASURES**

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<b>Eye Contact:</b>	Immediately flush eyes with plenty of water for at least 20 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention if irritation persists, or symptoms of overexposure become apparent.
<b>Skin Contact:</b>	Immediately wash skin with plenty of water for at least 20 minutes, while removing contaminated clothing and shoes. Get medical attention especially, if irritation develops, persists, or symptoms of overexposure become apparent.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Keep warm. Get immediate medical attention.
<b>Ingestion:</b>	If swallowed, call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical personnel. Get medical attention.

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**SECTION 5 : FIRE FIGHTING MEASURES**

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<b>Flash Point:</b>	No data
<b>Extinguishing Media:</b>	Use dry powder or carbon dioxide when fighting a fire involving this material.
<b>Unsuitable Media:</b>	Water extinguishers are not recommended.
<b>Protective Equipment:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

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**SECTION 6 : ACCIDENTAL RELEASE MEASURES**

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<b>Personal Precautions:</b>	Use proper personal protective equipment as listed in section 8.
<b>Spill Cleanup Measures:</b>	Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Refer to section 13 for disposal requirements.
<b>Environmental Precautions:</b>	Do not allow material to enter drains or streams.

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**SECTION 7 : HANDLING and STORAGE**

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<b>Handling:</b>	This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data. It should always be handled in an efficient fume hood or equivalent system. The user should consider that the toxicological and physiological properties of many compounds are not yet well determined and that new hazardous products may arise from reactions between chemicals. Care should be taken to prevent any chemical from coming into contact with the skin or eyes and from contaminating personal clothing.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat and incompatible substances. Keep container tightly closed when not in use.
<b>Hygiene Practices:</b>	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling dust.

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**SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION**Catalog No. L09648

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<b>Engineering Controls:</b>	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
<b>Skin Protection Description:</b>	Wear suitable protective clothing to prevent contact with skin.
<b>Hand Protection Description:</b>	Wear appropriate protective gloves. Consult glove manufacturers for glove permeability data.
<b>Eye/Face Protection:</b>	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
<b>Respiratory Protection:</b>	A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited to airborne concentrations that are typically within 10 times the exposure limit. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator use.
<b>Other Protective:</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

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**SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES**Catalog No. L09648

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<b>Physical State/Appearance:</b>	Solid
<b>Color:</b>	Cream to brown
<b>Flash Point:</b>	No data
<b>Boiling Point:</b>	No data
<b>Melting Point:</b>	118-120°C (244.4-248°F)
<b>n-Octanol/water partition coefficient:</b>	+3.53
<b>Solubility in Water:</b>	0.046 g/L @ 25°C (77°F)
<b>Density:</b>	No data
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>10</sub> Cl <sub>2</sub> O <sub>3</sub>
<b>Molecular Weight:</b>	249.10

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**SECTION 10 : STABILITY and REACTIVITY**Catalog No. L09648

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<b>Conditions to Avoid:</b>	High temperatures, flames and sparks.
<b>Incompatibilities with Other Materials:</b>	Strong reducing agents.
<b>Possible Decomposition Product:</b>	Carbon monoxide. Hydrogen chloride.

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**SECTION 11 : TOXICOLOGICAL INFORMATION**Catalog No. L09648

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**4-(2,4-Dichlorophenoxy)butyric acid :**

<b>RTECS Number:</b>	ES9100000
<b>Eye Effect:</b>	No data reported in the cited references as of the revision date.
<b>Skin Effects:</b>	Skin - rabbit LD50: >10 gm/kg (RTECS). Skin - rat LD50: 800 mg/kg (RTECS)
<b>Ingestion Effects:</b>	Oral - rat LD50: 700 mg/kg (RTECS); Oral - mouse LDLo: 750 mg/kg (RTECS)
<b>Inhalation Effects:</b>	No data reported in the cited references as of the revision date.
<b>Chronic Ingestion Effects:</b>	Oral - rat TDLo: 1400 mg/kg/4W-I Nutritional and Gross Metabolic - weight loss or decreased weight gain; Oral -rat TDLo: 56784 mg/kg/2Y-C Behavioral - food intake (animal) Blood - changes in platelet count Nutritional and Gross Metabolic - weight loss or decreased weight gain; Oral -rat TDLo: 5 gm/kg/10D-I Nutritional and Gross Metabolic - weight loss or decreased weight gain Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - catalases Related to Chronic Data - death; Oral -rat TDLo: 4368 mg/kg/60W-I Liver - other changes Blood - changes in spleen Nutritional and Gross Metabolic - weight loss or decreased weight gain; Oral -rat TDLo: 18928 mg/kg/13W-I Endocrine - other changes Blood - changes in leukocyte (WBC) count Related to Chronic Data - death (RTECS); Oral -mouse TDLo: 3360 mg/kg/4W-I Liver - changes in liver weight (RTECS)
<b>Mutagenicity:</b>	Mutation data reported. (RTECS). Experimental mutagenicity (Histidine reversion-Ames test): negative (EPA, 1988).
<b>Teratogenicity:</b>	Teratogenic effects. (RTECS)
<b>Reproductive Toxicity:</b>	Other experimental reproductive effects (Sax)

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**SECTION 12 : ECOLOGICAL INFORMATION**Catalog No. L09648

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<b>Ecotoxicity:</b>	No data available for parent acid. Amine salt and esters: LC50 Salmo gairdneri 4 mg/L/96H: Not classed under EU classification as toxic to aquatic organisms.
<b>Bioaccumulation:</b>	Not expected to significantly bioaccumulate and/or bioconcentrate in aquatic organisms. Estimated BCF 70-280 (HSDB).
<b>Biodegradation:</b>	Readily biodegradable in soil and water , greater than 50% in less than 7 dys. Vapor is readily photodegradable in the atmosphere, estimated half-life 27 hours (HSDB).
<b>Environmental Stability:</b>	Not expected to cause long-term adverse effects in the environment.

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**SECTION 13 : DISPOSAL CONSIDERATIONS**Catalog No. L09648

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<b>Waste Disposal:</b>	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines, by a licensed disposal company.
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**SECTION 14 : TRANSPORT INFORMATION**Catalog No. L09648

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DOT Hazard Class: No data.

DOT Identification Number: No data.

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**SECTION 15 : REGULATORY INFORMATION**Catalog No. L09648

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**4-(2,4-Dichlorophenoxy)butyric acid :**

TSCA 8(b): Inventory Status: No data

Risk Phrases: R22 Harmful if swallowed.  
R51/53 Toxic to aquatic organisms, may cause long term adverse effects in the environment.Safety Phrase: S25 Avoid contact with eyes.  
S29 Do not empty into drains.  
S46 If swallowed, seek medical advise immediately and show this container or label.  
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.[To Top of page](#)

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**SECTION 16 : ADDITIONAL INFORMATION**Catalog No. L09648

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MSDS Preparation Date: January 1, 2002, Version 1

MSDS Revision Date: April 14, 2003.

MSDS Author: Actio Corporation.

**Disclaimer:**

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**References:**

1. American Chemical Society, STN Easy Online Database
2. Brethericks Reactive Chemical Hazards Database. Version 2.
3. Gassarett and Doulls Toxicology, The Basic Science of Poisons.
4. Hawleys Condensed Chemical Dictionary, Thirteenth Edition
5. IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, WHO International Research on Cancer.
6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
8. National Toxicology Program (NTP) Eighth Report on Carcinogens, 1997.
9. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical Hazards.
10. OSHA Hazard Communication Standard, 1910.1200 and Z Tables.
11. Sax Dangerous Properties of Industrial Materials. Tenth Edition.
12. The Merck Index: An Encyclopedia of Chemicals and Drugs. Merck and Company. Twelfth Edition 1998.
13. Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environmental and Biological Exposure Indices. TLV Booklet, 2001.

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