



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 01-Apr-2024

Revision Number 1

1. Identification

Product identifier

Product Name Dichloroacetic Acid (DCA) Pharma

Other means of identification

Product Code(s) 1845

UN number or ID number UN1764

Synonyms DCA

Recommended use of the chemical and restrictions on use

Recommended use Industrial use
Laboratory use
Industrial Manufacturing (all)

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI 53925 USA
Phone: (920) 623-2140
Fax: (920) 623-2577
www.columbuschemical.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300 for US / 703-527-3887 outside US

Emergency Telephone 911

2. Hazard(s) identification

Classification

Acute toxicity - Dermal	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 1B
Effects on or via lactation	Yes
Specific target organ toxicity (repeated exposure)	Category 2
Corrosive to metals	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements**Danger****Hazard statements**

H311 - Toxic in contact with skin

H314 - Causes severe skin burns and eye damage

H351 - Suspected of causing cancer

H360 - May damage fertility or the unborn child

H362 - May cause harm to breast-fed children

H373 - May cause damage to organs through prolonged or repeated exposure

H290 - May be corrosive to metals.

**Precautionary Statements - Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P263 - Avoid contact during pregnancy/while nursing

P264 - Wash face, hands and any exposed skin thoroughly after handling

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

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P234 - Keep only in original packaging

Precautionary Statements - Response

P321 - Specific treatment (see First-Aid Measures on SDS)

P310 - Immediately call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/physician

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P390 - Absorb spillage to prevent material damage

Precautionary Statements - Storage

P405 - Store locked up

P406 - Store in corrosive resistant container with resistant inner liner

Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Unknown acute toxicity**Other information**

May be harmful if swallowed. Very toxic to aquatic life.

3. Composition/information on ingredients

Substance

Synonyms DCA.

Chemical name	CAS No	Weight-%	Formula	Molecular Weight
Dichloroacetic acid	79-43-6	>99	C ₂ H ₂ Cl ₂ O ₂	128.94 g/mol

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention.
Skin contact	Get immediate medical attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Attention! Corrosive material. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.
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8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Dichloroacetic acid	TWA: 0.5 ppm S*	-	-

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles. Face protection shield.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Clear
Color	Colorless; Light yellow
Odor	Stinging; Pungent
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	1.5600 - 1.5700	None known
Water solubility	Soluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known

Dynamic viscosity	No data available	None known
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Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	128.94 g/mol
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Oxidizing agent. Acids. Bases.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information**Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Toxic in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing.
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Acute toxicity

Numerical measures of toxicity**Unknown acute toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Dichloroacetic acid	= 2820 mg/kg (Rat)	= 510 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes severe skin burns and eye damage.										
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye damage. Causes burns.										
Respiratory or skin sensitization	No information available.										
Germ cell mutagenicity	No information available.										
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen.										
<table><tr><th>Chemical name</th><th>ACGIH</th><th>IARC</th><th>NTP</th><th>OSHA</th></tr><tr><td>Dichloroacetic acid</td><td>A3</td><td>Group 2B</td><td>Reasonably Anticipated</td><td>X</td></tr></table>		Chemical name	ACGIH	IARC	NTP	OSHA	Dichloroacetic acid	A3	Group 2B	Reasonably Anticipated	X
Chemical name	ACGIH	IARC	NTP	OSHA							
Dichloroacetic acid	A3	Group 2B	Reasonably Anticipated	X							
Legend											
ACGIH (American Conference of Governmental Industrial Hygienists)											
A3 - Animal Carcinogen											
IARC (International Agency for Research on Cancer)											
Group 2B - Possibly Carcinogenic to Humans											
NTP (National Toxicology Program)											
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen											
OSHA (Occupational Safety and Health Administration of the US Department of Labor)											
X - Present											
Reproductive toxicity	Classification based on data available for ingredients. May damage fertility or the unborn child. May cause harm to breast-fed children.										
STOT - single exposure	No information available.										
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.										
Aspiration hazard	No information available.										
Other adverse effects	No information available.										
Interactive effects	No information available.										

12. Ecological information

Ecotoxicity	Very toxic to aquatic life.
Persistence and degradability	No information available.
Bioaccumulation	There is no data for this product.
Other adverse effects	No information available.

13. Disposal considerations**Disposal methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers. Dispose of contents/containers in accordance with local regulations.

14. Transport information

<u>DOT</u>	Regulated
UN number or ID number	UN1764
Proper shipping name	Dichloroacetic Acid
Transport hazard class(es)	8
Packing group	II
DOT Marine Pollutant	No

<u>TDG</u>	Regulated
UN number or ID number	UN1764
UN proper shipping name	Dichloroacetic Acid
Transport hazard class(es)	8
Packing group	II

<u>ICAO (air)</u>	Regulated
UN number or ID number	UN1764
Transport hazard class(es)	8
Packing group	II

<u>IATA</u>	Regulated
UN number or ID number	UN1764
UN proper shipping name	Dichloroacetic Acid
Transport hazard class(es)	8
Packing group	II

<u>IMDG</u>	Regulated
UN number or ID number	UN1764
UN proper shipping name	Dichloroacetic Acid
Transport hazard class(es)	8
Packing group	II

15. Regulatory information

International Inventories

TSCA	Complies.
DSL/NDL	Complies.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIC	Contact supplier for inventory compliance status.
NZIoC	Contact supplier for inventory compliance status.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Dichloroacetic acid 79-43-6	Carcinogen Developmental Male Reproductive

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Dichloroacetic acid	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 3	Flammability 1	Instability 0	Special hazards -
HMIS	Health hazards 3 *	Flammability 1	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 01-Apr-2024

Revision Note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet