SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME	**DICHLOROACETIC ACID**
PRODUCT CODE	**0581**
SUPPLIER	**MEDISCA Inc.** Tel.: 1.800.932.1039 | Fax.: 1.855.850.5855 661 Route 3, Unit C, Plattsburgh, NY, 12901 6641 N. Belt Line Road, Suite 130, Irving, TX, 75063 **MEDISCA Pharmaceutique Inc.** Tel.: 1.800.665.6334 | Fax.: 514.338.1693 4509 Rue Dobrin, St. Laurent, QC, H4R 2L8 21300 Gordon Way, Unit 153/158, Richmond, BC V6W 1M2 **MEDISCA Australia PTY LTD** Tel.: 1.300.786.392 | Fax.: 61.2.9700.9047 Unit 7, Heritage Business Park 5-9 Ricketty Street, Mascot, NSW 2020
EMERGENCY PHONE	CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 NSW Poisons Information Centre: 131 126 National Chemical Emergency Centre 44(0)1235239670
RECOMMENDED USES	Industrial/Lab Use Only
RESTRICTIONS ON USE	Not applicable

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION	Acute Toxicity - Oral (Category 5) Acute Toxicity - Dermal (Category 3) Skin Corrosion (Category 1A) Eye Damage (Category 1) Carcinogenicity (Category 1B) Toxic to Reproduction (Category 1A) Acute Aquatic Toxicity (Category 1) Specific Target Organ Toxicity - Single Exposure (Category 1) - (skin, eyes)
PICTOGRAM	
SIGNAL WORD	Danger
HAZARD STATEMENT(S)	HIGHLY CORROSIVE liquid that gives off acidic vapors. Causes severe skin burns and eye damage. Toxic if in contact with skin. May be harmful if swallowed. May cause cancer. May damage fertility or the unborn child. Very toxic to aquatic life. Causes damage to organs (skin, eyes).

ADVERSE PHYSIOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS	Not Available.	
PRECAUTIONARY STATEMENT(S)	**Prevention**	Wash hands thoroughly after handling. Do not touch eyes. Wear protective gloves, protective clothing, eye and face protection and hearing protection. Obtain, read and follow all special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Avoid release to the environment
	Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical help. IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Immediately rinse skin with water for several minutes. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately; Immediately call a poison center or medical professional; IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help; Immediately call a poison center or medical professional. IF EXPOSED: Get emergency medical help immediately. Call a poison center or doctor. COLLECT SPILLAGE.
	Storage	Store locked up.
	Disposal	Dispose of contents and/or container in accordance with local regulations.

HMIS CLASSIFICATION

Health Hazard	3	**Flammability**	1
Reactivity	1	**Personal Protection**	G

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	Acetic acid, 2,2-dichloro-
BOTANICAL NAME	Not applicable
SYNONYM	DCA; Bichloracetic acid; dichloroethanoic
CHEMICAL FORMULA	$C_2H_2Cl_2O_2$
CHEMICAL FAMILY	Not available
CAS NUMBER	79-43-6
ALTERNATE CAS NUMBER	Not applicable
MOLECULAR WEIGHT	128.942

COMPOSITION

CHEMICAL NAME	CAS NUMBER	EC NUMBER	% BY WEIGHT
DICHLOROACETIC ACID	79-43-6	201-207-0	100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as health hazards and hence require reporting in this section.

SECTION 4: FIRST-AID MEASURES

IN CASE OF EYE CONTACT	Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.
IN CASE OF SKIN CONTACT	Wash with soap & water for 15 minutes. If irritation persists seek medical aid.

IF SWALLOWED	Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.
IF INHALED	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician
MEDICAL ATTENTION AND SPECIAL TREATMENT	Get emergency medical help.
SYMPTOMS CAUSED BY EXPOSURE	Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 5: FIREFIGHTING MEASURES

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	The substance decomposes on heating producing toxic and corrosive fumes including hydrogen chloride . The substance is a strong acid, it reacts violently with bases and is corrosive. Attacks many metals forming flammable/explosive gas.
FLAMMABLE PROPERTIES	May be combustible at high temperature
HAZARDOUS COMBUSTION PRODUCTS	Under fire conditions, hazardous fumes will be present.
SUITABLE & UNSUITABLE EXTINGUISHING MEDIA	**Small fire:** dry chemical, CO_2 or water spray. **Large fire:** dry chemical, CO_2, alcohol resistant foam or water spray. Do not get water inside containers.
PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
METHODS & MATERIAL FOR CONTAINMENT	On land, sweep or shovel into suitable containers.
CLEANUP PROCEDURE	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Shut off all sources of ignition. Evacuate the area. If necessary, employ water fog to disperse the vapors. Absorb the matter with compatible vermiculite or other absorbing material. Place in a suitable container and retain for disposal. Ventilate and clean the affected area. Do not flush into sewerage system or to drains.
REFERENCE TO OTHER SECTIONS	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.
NOTES	Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Cautiously neutralize remainder. Then wash away with plenty of water.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	Do not inhale. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

CONDITIONS FOR SAFE STORAGE

Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

STORAGE CONDITIONS

Store in original container, tightly sealed, protected from direct sunlight and moisture.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Chemical Name: DICHLOROACETIC ACID CAS #: 79-43-6

	Country	Limit value-8 hours		Limit value-Short Term		IDLH	REL	Advisory	Notes
		ppm	mg/m³	ppm	mg/m³				
OSHA	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
ACGIH	USA	0.5	N/L	N/L	N/L	N/L	N/L	N/A	Skin
NIOSH	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
WEEL	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSIS	Australia	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSE	UK	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
GESTIS	Belgium	0.5(1)	2.7(1)	N/L	N/L	N/L	N/L	N/A	(1) Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
GESTIS	Germany (AGS)	0.2(1)	1.1(1)	0.2(1)(2)	1.1(1)(2)	N/L	N/L	N/A	(1) Inhalable fraction and vapour (2) 15 minutes average value
GESTIS	Germany (DFG)	0.2 (1)(2)(3)	1.1 (1)(2)(3)(4)	0.2 (1)(2)(3)(5)	1.1 (1)(2)(3)(4)(5)	N/L	N/L	N/A	1) Inhalable fraction and vapour (2) Acid and its salts (3) Skin (does not apply to the acid) (4) Salts: 1,1 mg/m³ as acid (5) 15 minutes average value
GESTIS	Switzerland	0.4	2.2	0.4 (1)	2.2 (1)	N/L	N/L	N/A	(1) 15 minutes average value

N/L = Not listed ; N/A = Not Available
PELs are 8-hour TWAs = Limit value - Eight hours
Ceiling or Short-Term TWA = STEL = Limit value - Short term

EXPOSURE GUIDELINES

Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m³

PERSONAL PROTECTIVE EQUIPMENT	**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin:** Wear appropriate gloves to prevent skin exposure. **Clothing:** Wear appropriate protective clothing to minimize contact with skin. **Respirators:** Follow WHMIS or OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. **Thermal Hazards:** For products representing a thermal hazard, appropriate Personal Protective Equipment should be used.
SPECIFIC ENGINEERING CONTROLS	Adequate mechanical ventilation. Fumehood, eye wash station, and safety shower. A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
BIOLOGICAL MONITORING	Not available
CONTROL BANDING	Not available
NOTES	INHALATION RISK: No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20°C. OEL: BELGIUM: TWA: 0.5 ppm (2.7 mg/m³), Skin OEL: RUSSIA: STEL: 4 mg/m³

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
DESCRIPTION	Clear colorless to pale yellow liquid with pungent odor.
SOLUBILITY	Soluble in water, ethanol and ether.
ODOR	Pungent odor
FLAMMABILITY	May be combustible at high temperature

AUTO-IGNITION TEMPERATURE	Not available	**BOILING POINT**	194°C, 381.2°F	**DECOMPOSITION TEMPERATURE**	Not available
EVAPORATION RATE	Not available	**EXPLOSIVE LIMIT**	Not available	**FLASH POINT**	>113°C, >235.4°F
log P (OCTANOL-WATER)	0.942	**LOWER FLAMMABLE/ EXPLOSIVE LIMIT(S)**	Not available	**MELTING/FREEZING POINT**	> 93.3 °C, > 200 °F (closed cup)
PARTICLE CHARACTERISTICS	Not available	**OXIDIZING PROPERTY**	Not available	**pH**	Not available
RELATIVE DENSITY (WATER = 1)	1.563	**SPECIFIC GRAVITY**	1.563	**UPPER FLAMMABLE/ EXPLOSIVE LIMIT(S)**	Not available
VAPOR DENSITY (AIR = 1)	4.45	**VAPOR PRESSURE**	0.19 mmHg (20°C)	**VISCOSITY**	Not available

The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY	NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.
CHEMICAL STABILITY	Stable under recommended storage conditions
INCOMPATIBLE MATERIALS	Strong oxidizers, bases, and reducing agents.
HAZARDOUS DECOMPOSITION PRODUCTS	Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and other gases may occur
HAZARDOUS POLYMERIZATION	Will not occur
POSSIBLITY OF HAZARDOUS REACTION	Not established
CONDITIONS TO AVOID	Moisture, sunlight and extreme temperatures

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY	Oral: Rat: LD50: (mg/kg): 2820 Dermal: Rabbit LD50: (mg/kg): 799 Inhalation: Rat: LC50: (mg/L/4hr): Not available
SKIN CORROSION/IRRITATION	Draize, skin, rabbit: 2mg/24hr, severe Skin /rabbit: 2mg/24H, severe Skin /rabbit: 2mg, severe Suspected skin irritant: The Danish QSAR database contains information indicating that the substance is predicted as skin irritant
SERIOUS EYE DAMAGE/EYE IRRITATION	Draize, eye, rabbit: 50ug open, severe Eye /rabbit: 1%, severe
RESPIRATORY SENSITIZATION	Due to lack of data the classification is not possible.
SKIN SENSITIZATION	Due to lack of data the classification is not possible.
GERM CELL MUTAGENICITY	Based on available data, the classification criteria are not met. Suspected mutagen: The Toolbox profiler in vitro mutagenicity (Ames test) alerts by ISS gives an alert for mutagenicity; ISS Mutagenicity model in VEGA (Q)SAR platform predicts that the chemical is Mutagen (EXPERIMENTAL value); KNN Mutagenicity model in VEGA (Q)SAR platform predicts that the chemical is Mutagen (EXPERIMENTAL value); In vivo micronucleus test outcome equivocal according to ISSMIC; mutagen according to ISSSTY.

CARCINOGENICITY

OSHA	DICHLOROACETIC ACID is listed.
NTP	DICHLOROACETIC ACID is listed.
IARC	DICHLOROACETIC ACID is listed in group 2b (possibly carcinogenic to humans).
California Proposition 65	This product contains the following chemical known to the State of California to cause cancer and birth defects or other reproductive harm: DICHLOROACETIC ACID.

ADDITIONAL CARCINOGENICITY INFORMATION

A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2005)

Suspected carcinogen: The Toolbox profiler Carcinogenicity (genotox and nongenotox) alerts by ISS gives an alert for carcinogenicity; CAESAR Carcinogenicity model in VEGA (Q)SAR platform predicts that the chemical is Carcinogen (EXPERIMENTAL value); ISS Carcinogenicity model in VEGA (Q)SAR platform predicts that the chemical is Carcinogen (EXPERIMENTAL value); IARC monographs classified the substance as carcinogenic or probably/possibly carcinogenic; carcinogen according to ISSCAN.

REPRODUCTIVE TOXICITY	Investigated as a tumorigen, mutagen, reproductive effector. Suspected toxic for reproduction: The Toolbox profiler DART scheme v.1.0 gives an alert for toxicity to reproduction; Developmental/Reproductive Toxicity library (PG) in VEGA (Q)SAR platform predicts that the chemical is Toxicant (EXPERIMENTAL value); DART database in the Toolbox reports that this substance as known developmental potential.	
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	Corrosive. The substance is corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion. Inhalation of the vapour may cause lung oedema (see Notes). Exposure may result in death. Medical observation is indicated.	
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Based on available data, the classification criteria are not met.	
ASPIRATION HAZARDS	Based on available data, the classification criteria are not met.	
SIGNS AND SYMPTOMS OF EXPOSURE	ROUTES OF EXPOSURE: Oral, Dermal, Inhalation, Eye contact EARLY ONSET SYMPTOMS RELATED TO EXPOSURE: Not available DELAYED HEALTH EFFECT FROM EXPOSURE: Not available Symptoms may include burning sensation, coughing, wheezing,laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may befatal as a result of spasm inflammation and edema of the larynx and bronchi, chemicalpneumonitis and pulmonary edema. Burning sensation. Sore throat. Cough. Laboured breathing. Shortness of breath. Symptoms may be delayed. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.	
POTENTIAL HEALTH EFFECTS	**Inhalation**	Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory.
	Ingestion	Extremely destructive to tissues. Abdominal pain. Burning sensation. Shock or collapse
	Skin	Extremely destructive to skin. Redness. Pain. Blisters. Serious skin burns.
	Eyes	Extremely destructive to eyes. Redness. Pain. Severe deep burns.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY	EC50: 48 Hr: Crustacea: Daphnia Magna (mg/L): 13.63* LC50: 96 Hr: Fish: (mg/L): Not available EC50: 96 Hr: Algae:Aquatic Green Algae: (mg/L): < 1**
PERSISTENCE AND DEGRADABILITY	Suspected persistent in the environment: The Danish QSAR database contains information indicating that the substance is predicted as non readily biodegradable.
BIOACCUMULATIVE POTENTIAL	LogPow: 0.942
MOBILITY IN SOIL	Soluble in water.
OTHER ADVERSE EFFECTS	The substance is harmful to aquatic organisms.
	This product is not intended to be released into the environment
NOTES	*VEGA (Q)SAR platform prediction (moderate reliability) **Danish QSAR database

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.

SECTION 14: TRANSPORT INFORMATION

UN PROPER SHIPPING NAME	DICHLOROACETIC ACID
UN NUMBER	1764
CLASS	8
PACKING GROUP	II
AUSTRALIA	
HAZCHEM	2X
EU	
TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE	Not Listed
ENVIRONMENTAL HAZARDS	Not available
SPECIAL SHIPPING INFORMATION	Not applicable

SECTION 15: REGULATORY INFORMATION

UNITED STATES REGULATIONS

Chemical Name & CAS	CERCLA 40 CFR Part 302.4	SARA (Title III) 40 CFR Part 372.65	EPA 40 CFR Part 355 Appendix A	EPA 40 CFR Part 355 Appendix B	Right-to-know Pennsylvania	Right-to-know New Jersey	Right-to-know Massachusetts	California Prop 65
DICHLOROACETIC ACID 79-43-6	N/L	N/L	N/L	N/L	N/L	X	N/L	X

N/L = Not Listed; X = Listed

AUSTRALIAN REGULATIONS

Chemical Name & CAS	Poisons and Therapeutic Goods	Therapeutic Goods Act	Code of Practices - Illicit Drug Precursors	Poisons Standard	Work Health and Safety Regulations	Inventory of Industrial Chemcials
DICHLOROACETIC ACID 79-43-6	N/L	N/L	N/L	N/L	N/L	N/L

N/L = Not Listed

EU REGULATIONS

Chemical Name & CAS	REACH ANNEX XVII	REACH ANNEX XIV	EC 1005/2009	EC 850/2004	EC 1107/2009	PIC - Prior Informed Consent Regulation	EC 2012/18
DICHLOROACETIC ACID 79-43-6	N/L	N/L	N/L	N/L	N/L	N/L	N/L

N/L = Not Listed; X = Listed

Any EU regulation not listed above is not applicable to this product.

SUBJECT TO INTERNATIONAL AGREEMENT	Not applicable

SECTION 16: OTHER INFORMATION

REFERENCES	Available upon request
ABBREVIATIONS AND ACRONYMS	**ACGIH** - American Conference of Governmental Industrial Hygienists; **AIHA WEEL** – American Industrial Hygiene Association Workplace Environment Exposure Levels; **CAESAR** – Computer Assisted Evaluation of industrial chemical Substances According to Regulations; **CAS** – Chemical Abstract Service; **CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act; **EC50** – Effective Concentration, 50%; **EPA** – Environmental Protection Agency; **GHS** – Global Harmonized System; **HMIS** – Hazardous Materials Information System; **HSE** – Health and Safety Executive; **HSIS** – Hazardous Substances Information System; **IARC** – International Agency for Research on Cancer; **IDLH** - Immediately Dangerous to Life or Health; **IRFMN** – Ready Biodegradability Model; **ISS** – Instituto Superiore Sanità; **LC50** – Lethal Concentration, 50%; **LD50** – Lethal Dose, 50%; **MSHA** - Mine Safety and Health Administration; **NIOSH** – National Institute for Occupational Safety and Health; **NTP** – National Toxicology Program; **OSHA PEL** – Occupational Safety & Health Administration Permissible Exposure Limits; **QSAR** – Quantitative Structure-activity relationship; **REL** - Recommended Exposure Limit; **SARA** – Superfund Amendments and Reauthorization Act; **STEL** – Short Term Exposure Limit; **TLV** – Threshold Limit Value; **TWA** – Time Weighted Average; **WHMIS** – Workplace Hazardous Materials Information System
LAST REVISION	03/2024
SUPERSEDES	03/2023
	For a list of changes to the SDS since the last version, please communicate with MEDISCA at www.medisca.com
DISCLAIMER	This document was created in accordance with OSHA, Safe Work Australia and WHMIS regulations. 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. MEDISCA® shall not be held liable for any damage resulting from handling or from contact with the above product. Recipients of the product must take responsibility for observing existing laws and regulations.
SUPPLEMENTARY INFORMATION	For all country specific requirements not outlined on this Safety Data Sheet, please request Supplementary Page to this Safety Data Sheet.