TCI AMERICA
SAFETY DATA SHEET

Revision number: 1
Revision date: 07/06/2018

1. IDENTIFICATION

Product name: Dichloroacetic Acid
Product code: D0308

Product use: For laboratory research purposes.
Restrictions on use: Not for drug or household use.

Company:
TCI America
9211 N. Harborgate Street
Portland, OR 97203 U.S.A.
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Fax:
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Emergency telephone number:
Chemical Emergencies:
TCI America (8:00am - 5:00pm) PST
+1-503-286-7624
Transportation Emergencies:
Chemtrec 24-Hour
+1-800-424-9300 (U.S.A.)
+1-703-527-3887 (International)
Responsible department:
TCI America
Environmental Health Safety and Security
+1- 503-286-7624

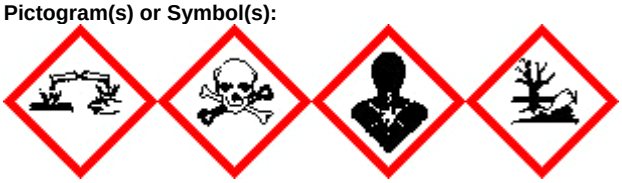
2. HAZARD(S) IDENTIFICATION

OSHA Haz Com: CFR 1910.1200:
WHMIS 2015:
Acute Toxicity - Dermal [Category 3]
Skin Corrosion/Irritation [Category 1A]
Eye Damage/Irritation [Category 1]
Germ Cell Mutagenicity [Category 2]
Carcinogenicity [Category 2]
Toxic to Reproduction [Category 1B]
Specific Target Organ Toxicity (Single Exposure) [Category 1]
Specific Target Organ Toxicity (Repeated Exposure) [Category 1]
Specific Target Organ Toxicity (Repeated Exposure) [Category 2]
Corrosive to Metals [Category 1]
Aquatic Hazard (Acute) [Category 1]

Signal word: Danger!

Hazard Statement(s):
May be corrosive to metals
Toxic in contact with skin
Causes severe skin burns and eye damage
Suspected of causing genetic defects
Suspected of causing cancer
May damage fertility or the unborn child
Very toxic to aquatic life
Causes damage to: Respiratory System
Causes damage to organs through prolonged or repeated exposure: Central Nervous System
May cause damage to organs through prolonged or repeated exposure: Liver Kidney Testis Pancreas

Pictogram(s) or Symbol(s):



Precautionary Statement(s):

[Prevention] Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe mist, vapors or spray. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Wear protective gloves, protective clothing, face protection.

[Response] If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a poison center or doctor. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. If exposed: Call a poison

center or doctor. Absorb spillage to prevent material damage. Collect spillage.

[Storage] Store in corrosive resistant bottle or metal container with a resistant inner liner. Store locked up.

[Disposal] Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).

Hazards not otherwise classified: [HNOC] May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance
Components: Dichloroacetic Acid
Percent: >98.0%(GC)(T)
CAS RN: 79-43-6
Molecular Weight: 128.94
Chemical Formula: $C_2H_2Cl_2O_2$

4. FIRST-AID MEASURES

Description of first aid measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.Immediately call a POISON CENTER or doctor/physician.

Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Symptoms/effects:

Acute: Pain. Redness.

Delayed: May cause heritable genetic damage in humans. Possibly carcinogenic to humans.

Indication of any immediate medical attention:
Not available.
Notes to physician:
No data available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water in large amounts, carbon dioxide.

Specific hazards arising from the chemical: Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

Hazardous combustion products: These products include: Carbon oxides Halogenated compounds

Other specific hazards: WARNING: Highly toxic HCl gas is produced during combustion.

Advice for firefighters: Wear self-contained breathing apparatus if possible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions: Be careful not to let it flow into rivers, etc., since adverse effects on the environment are concerned.

Methods and materials for containment and cleaning up: Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling.
Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.
Avoid all contact!
Use corrosive resistant equipment.

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool and dark place.
Store under inert gas. Protect from moisture. Store locked up.
Store away from incompatible materials such as oxidizing agents.
Hygroscopic

Packaging material: Comply with laws. Keep only in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls: Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid
Form: Clear
Colour: Colorless - Very pale reddish yellow
Odour: Pungent
Odor threshold: No data available
Odour threshold: No data available

Melting point/freezing point:	13°C (Freezing point) (55°F)	pH:	No data available
Boiling point/range:	193°C (379°F)	**Vapour pressure:**	No data available.
Decomposition temperature:	No data available	**Vapour density:**	4.4
Relative density:	1.57	**Dynamic Viscosity:**	No data available
Kinematic viscosity:	No data available		
Log Pow:	No data available	**Evaporation rate(Butyl Acetate=1):**	No data available
Flash point:	170°C (338°F)	**Autoignition temperature:**	No data available
Flammability(solid, gas):	No data available	**Flammability or explosive limits:**	
		Lower:	No data available
		Upper:	No data available

Solubility(ies):
[Water] Miscible
[Other solvents]
Miscible: Ether, Alcohols

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under proper conditions.
Possibility of hazardous reactions: No special reactivity has been reported.
Incompatible materials: Oxidizing agents, Strong bases, Reducing agents, Metals
Hazardous decomposition products: Carbon dioxide, Carbon monoxide, Hydrogen chloride

11. TOXICOLOGICAL INFORMATION

RTECS Number: AG6125000

Acute Toxicity:
orl-rat LD50:2820 mg/kg

skn-rbt LD50:510 uL/kg

Skin corrosion/irritation:
skn-rbt 2 mg/24H SEV

Serious eye damage/irritation:
No data available

Respiratory or skin sensitization:
No data available

Germ cell mutagenicity:
cyt-mus-lym 600 mg/L

msc-mus-lym 400 mg/L

Carcinogenicity:
orl-mus TDLo:427 g/kg/61W-C

orl-rat TDLo:100 g/kg/2Y-C

IARC: Group 2B (Possibly carcinogenic to humans) .

NTP: No data available

OSHA: No data available

Reproductive toxicity:
orl-rat TDLo:4 g/kg (6-15D preg)

Target organ(s):
Causes damage to: Respiratory System
Causes damage to organs through prolonged or repeated exposure: Central Nervous System
May cause damage to organs through prolonged or repeated exposure: Liver Kidney Testis Pancreas

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish:	No data available
Crustacea:	No data available
Algae:	No data available

Persistence / degradability:	97 % (by BOD) , 100 % (by HPLC) , 94 % (by TOC)
Bioaccumulative potential(BCF):	3
Mobility in soil	
Log Pow:	0.92
Soil adsorption (Koc):	75
Henry's Law (PaM ^{3}/mol):	6.9 x 10^{-3}

13. DISPOSAL CONSIDERATIONS

Disposal of product:	Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.
Disposal of container:	Dispose of as unused product. Do not re-use empty containers.
Other considerations:	Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

DOT (US)

UN number:	Proper Shipping Name:	Class or Division:	Packing Group:
UN1764	Dichloroacetic acid	8 Corrosive material	II

IATA

UN number:	Proper Shipping Name:	Class or Division:	Packing Group:
UN1764	Dichloroacetic acid	8 Corrosive material	II

IMDG

UN number:	Proper Shipping Name:	Class or Division:	Packing Group:
UN1764	Dichloroacetic acid	8 Corrosive material	II

EmS number: F-A, S-B

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA 8b.):
This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

US Federal Regulations

CERCLA Hazardous substance and Reportable Quantity:

SARA 313:	Not Listed
SARA 302:	Not Listed

State Regulations

State Right-to-Know

Massachusetts	Not Listed
New Jersey	Listed
Pennsylvania	Not Listed
California Proposition 65:	Listed

Other Information

NFPA Rating:		HMIS Classification:	
Health:	3	**Health:**	3
Flammability:	1	**Flammability:**	1
Instability:	0	**Physical:**	0

International Inventories

Canada: DSL	On DSL
EC-No:	201-207-0

16. OTHER INFORMATION

Revision date: 07/06/2018
Revision number: 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.