

Dichloroacetic Acid 3% (v/v) in Toluene

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Dichloroacetic Acid 3% (v/v) in Toluene

Synonyms/Generic Names: None

Product Number: 1848

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Hazards Not Otherwise Classified (HNOC): None

Target Organs: Kidney, Liver, Spleen, Blood, Respiratory System, Central Nervous System (CNS)

Signal Words: Danger

Pictograms:



GHS Classification:

Corrosive to Metal	Category 1
Flammable liquid	Category 2
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Reproductive toxicity - effects on or via lactation	Category 1B
Specific target organ toxicity - single exposure – Respiratory tract irritation, Narcotic effects	Category 3
Specific target organ toxicity - repeated exposure	Category 2
Aspiration hazard	Category 1
Hazardous to the aquatic environment, acute hazard	Category 3

GHS Label Elements, including precautionary statements:**Hazard Statements:**

H225	Highly flammable liquid and vapor.
H290	May be corrosive to metals.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.
H362	May cause harm to breast-fed children.
H373	May cause damage to organs.
H402	Harmful to aquatic life.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P234	Keep only in original container.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fume/gas/mist/vapors/spray.
P263	Avoid contact during pregnancy/while nursing.
P264	Wash skin/hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use outdoors or in a well-ventilated area.
P273	Avoid release to environment.
P280+P281	Wear protective gloves/protective clothing/eye protection/face protection as required
P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor/physician.
P370+P378	In case of fire: Use appropriate media to extinguish.
P390	Absorb spillage to prevent material damage.
P403+P235	Store in a well-ventilated place. Keep cool.
P404+P405	Store in a closed container. Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes severe eye damage.
Inhalation	Causes respiratory tract irritation and narcotic effects. Vapors may cause drowsiness and dizziness.
Skin	Causes severe skin damage. Harmful if absorbed through skin.
Ingestion	Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

NFPA Ratings

Health	4
Flammability	3
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	4
Fire	3
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Toluene	94-96	108-88-3	203-625-9	C ₇ H ₈	92.14 g/mol
Dichloroacetic acid	4-6	79-43-6	201-207-0	C ₂ H ₂ Cl ₂ O ₂	128.94 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.
General Advice	Immediately call a Poison Center/Physician. Show safety data sheet to the doctor.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking. Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides) under fire conditions. Vapors can travel to a source of ignition and flash back. Containers may explode in a fire. Cool containers from a distance using water spray. SENSITIVE TO STATIC DISCHARGE. See also Stability and Reactivity section.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Do not handle until all safety precautions have been read and understood. See section 8 for recommendations on the use of personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe fume, mist or vapors. Ensure adequate ventilation. Emergency procedures shall be executed only by specialists or authorized personnel. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
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Environmental precautions	Do not flush into surface water or sanitary sewer system. Prevent spillage from entering drains. Any release to the environment may be subject to a federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Use spark-proof tools and explosion-proof equipment. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe fume, mist or vapors. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharge. See section 8 for recommendations on the use of personal protective equipment. Wash thoroughly after using. Keep container tightly closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in tightly closed, original containers in a cool, dry, well-ventilated area. Flammable area. Keep away from heat and sources of ignition. Do not store with strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Toluene	200 ppm	TWA	OSHA PELs
	300 ppm	CEIL	OSHA PELs
	20 ppm	TWA	ACGIH® TLV®
	100 ppm (375 mg/m ³)	TWA	NIOSH RELs
	150 ppm (560 mg/m ³)	STEL	NIOSH RELs
Dichloroacetic Acid	0.5 ppm	TLV	ACGIH® TLV®

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit usually 15 minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Handle in accordance with good industrial hygiene and safety practice.

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, to slight colorless liquid.
Odor	Not Available
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Upper/lower flammability or explosive limit	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	0.89
Solubility (ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Vapors may form explosive mixture with air.
Conditions to Avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible Materials	Oxidizing agents, metals.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Toluene

Skin	LD50 Dermal- rabbit- 12,000 mg/kg
Eyes	Not Available
Respiratory	LC50 Inhalation – rat – 1h- 26,700 ppm
Ingestion	LD50 Oral- rat- > 5,000 mg/kg

Dichloroacetic Acid

Skin	LD50 Dermal- rabbit- 510 mg/kg
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral- rat- 2,820 mg/kg

Carcinogenicity

IARC	2B - Group 2B: Possibly carcinogenic to humans (Dichloroacetic acid).
ACGIH	A3 – Animal Carcinogen.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Burning, itching, redness. Harmful if absorbed through skin.
Eyes	Causes serious eye damage. Redness, excessive blinking, and watering eyes.
Respiratory	headache, disorientation, blurred vision, dizziness, fatigue, or nausea.
Ingestion	Nausea, vomiting.

Chronic Toxicity	Not Available.
Teratogenicity	Possible risk of harm to unborn child (Toluene).
Mutagenicity	Not Available.
Embryotoxicity	Fetotoxicity (except death, e.g., stunted fetus).
Specific Target Organ Toxicity	Kidney, Liver, Spleen, Blood, Testes, Respiratory System, Central Nervous System (CNS).
Reproductive Toxicity	Experiments have shown reproductive toxicity effects on lab animals (Toluene). Effects on or via lactation (Dichloroacetic acid).
Aspiration hazard	Aspiration hazard, may cause pulmonary edema and pneumonitis (Toluene).
Respiratory/Skin Sensitization	Not Available.

12. ECOLOGICAL INFORMATION**Ecotoxicity***Toluene*

Aquatic Vertebrate	LC50 – Freshwater Fish - 50.00 - 70.00 mg/l - 96 h LC50 – Freshwater Fish – 15.00 – 19.00 mg/l 96 h LC50 – Freshwater Fish – 28.00 mg/l 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) – 11.5 mg/l - 48 h
Terrestrial	EC50 - Pseudokirchneriella subcapitata (green algae) - 12.5 mg/l - 72 h EC50 - Pseudokirchneriella subcapitata (green algae) - > 433 mg/l - 96 h

Dichloroacetic acid

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) – 106 - 2600 mg/l - 24 h
Terrestrial	Not Available

Persistence and Degradability	Persistence is unlikely
Bioaccumulative Potential	Not Available
Mobility in Soil	Will likely be mobile in the environment due to its water solubility.
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORT INFORMATION

US DOT	UN2924, Flammable liquid, corrosive, n.o.s. (Toluene, Dichloroacetic acid) 3 (8), pg II
TDG	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Toluene, Dichloroacetic acid) 3 (8), pg II
IMDG	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Toluene, Dichloroacetic acid) 3 (8), pg II
Marine Pollutant	No
IATA/ICAO	UN2924, Flammable liquid, corrosive, n.o.s. (Toluene, Dichloroacetic acid) 3 (8), pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Listed: Toluene, Dichloroacetic acid
Massachusetts: Toxic or Hazardous Substance List	Listed: Toluene
New Jersey: Right to Know Hazardous Substance List	Listed: Toluene, Dichloroacetic acid
Pennsylvania: Hazardous Substance List	Listed: Benzene, Methyl-
Rhode Island: Hazardous Substance List	Listed: Methylbenzene
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Physical Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 312	Physical Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 313	Listed: Toluene
WHMIS Canada	Class B2: Flammable and combustible material- Flammable liquid Class D2A: Very Toxic (Teratogenicity/Embryotoxicity) Class D1B: Toxic (skin irritant)

16. OTHER INFORMATION

Revision	Date
Created on	01/04/2022

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.