

MATERIAL SAFETY DATA SHEET

Acetic Acid 50% v/v Solution

SECTION 1 . Product and Company Identification

Product Name and Synonym: Acetic Acid 50% v/v Solution

Product Code: 0053

Material Uses:

Manufacturer: Science Stuff
1104 Newport Ave

Austin, TX 78753

(512) 837-6020

Entry Date : 5/23/2013

Print Date: 5/23/2013

24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

Health:	2
Flammability:	1
Reactivity:	0

Hazard Rating:

Least	Slight	Moderate	High	Extreme
0	1	2	3	4

NA=Not Applicable NE=Not Established

SECTION 2 HAZARD IDENTIFICATION

DANGER! POISON! MAY BE FATAL IF SWALLOWED! CORROSIVE! CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS, HARMFUL IF INHALED OR ABSORBED THROUGH THE SKIN.

Physical state: Liquid
Odor: Vinegar-like

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview:

**DANGER!
POISON!
CORROSIVE!
FLAMMABLE LIQUID AND VAPOR!**

**MAY BE FATAL IF SWALLOWED
CAUSES EYE AND SKIN BURNS
HARMFUL IF INHALED
CAUSES RESPIRATORY TRACT IRRITATION
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA, TEETH**

Do not ingest. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry: Dermal contact. Eye contact. Inhalation. Ingestion

Potential acute health effects:

Eyes: Corrosive to eyes
Skin: Corrosive to the skin
Inhalation: Toxic by inhalation. Irritating to respiratory system
Ingestion: Very toxic if swallowed. May cause burns to mouth, throat and stomach
Carcinogenic effects: No known significant effects or critical hazards
Mutagenic effects: No known significant effects or critical hazards
Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards

Medical conditions aggravated by over-exposure. Repeated or prolonged exposure to the substance can produce lung damage. Repeated or prolonged contact with spray or mist may

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produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (section 11).

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input type="checkbox"/>	Acetic Acid, Glacial	CAS# 64-19-7	50%	V/V	10 ppm OSHA TWA, 15 ppm OSHA STEL
<input type="checkbox"/>	Water, Deionized ASTM Type II	CAS# 7732-18-5	Balance	V/V	None Established

SECTION 4 FIRST AID MEASURES

DANGER! POISON! MAY BE FATAL IF SWALLOWED! CORROSIVE! CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS, HARMFUL IF INHALED OR ABSORBED THROUGH THE SKIN.

FIRST AID: SKIN: In case of contact, immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse. If symptoms persist, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. If exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Water, dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.
Fire / Explosion Hazards:	Thermal decomposition may produce toxic fumes.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

No smoking or flames in area! Take up with sand or other noncombustible material, then flush area with water.

Personal precautions: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up: If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

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SECTION 7 HANDLING AND STORAGE

Store in a tightly closed container away from heat, flame and other sources of ignition. Wash thoroughly after handling. Store in a cool dry place

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: NIOSH/MSHA-approved respirator

Ventilation

Local Exhaust

Mechanical

Protective Gloves: Wear appropriate gloves to prevent skin exposure.

Eye Protection: Splash Goggles,
Face shield

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure.

Product name - United States – Acetic Acid

Exposure limits

ACGIH TLV (United States, 1/2006)

STEL: 37 mg/m³ 15 minute/minutes Forms: All forms

STEL: 15 ppm 15 minute/minutes Forms: All forms

TWA: 25 mg/m³ 8 hour/hours Forms: All forms

TWA: 10 ppm 8 hour/hours Forms: All forms

NIOSH REL (United States, 12/2001)

STEL: 37 mg/m³ 15 minute/minutes Forms: All forms

STEL: 15 ppm 15 minute/minutes Forms: All forms

TWA: 25 mg/m³ 10 hour/hours Forms: All forms

TWA: 10 ppm 10 hour/hours Forms: All forms

OSHA PEL (United States, 8/1997)

TWA: 25 mg/m³ 8 hour/hours Forms: All forms

TWA: 10 ppm 8 hour/hours Forms: All forms

OSHA PEL 1989 (United States, 3/1989)

TWA: 25 mg/m³ 8 minute/minutes Forms: All forms

TWA: 10 ppm 8 minute/minutes Forms: All forms

Consult local authorities for acceptable exposure limits.

Engineering measures: Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended: splash goggles, face shield

Skin: Personal protective equipment for the body should be selected based

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on the task being performed and risks involved and should be approved by a specialist before handling this product.
Body recommended: safety apron

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: neoprene

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	~16 deg C (Acetic Acid)	Percent Volatile by Volume:	>99
Boiling Point:	Information not available	Evaporation Rate	information not available
Vapor Pressure:	Information not available	Evaporation Standard	
Vapor Density:	2.1	Auto Ignition Temp	Information not available
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	not available
Appearance /Odors:	Clear colorless liquid with pungent vinegar smell	Upper Flamm. Limit in Air	not available
Flash Point:	Information not available		
Specific Gravity:	1.0		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	High temperatures, ignition sources, incompatibilities.
Materials to Avoid:	Basic Conditions
Hazardous Decomposition Products:	Carbon oxides
Hazardous polymerization:	not known to occur
Conditions to Avoid:	None known

SECTION 11 Toxicological Information

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Toxicity data

United States

Product/ingredient name – Acetic Acid

Test	Result	Route	Species
LD50	3310 mg/kg	Oral	Rat
LD50	4960 mg/kg	Oral	Mammal
LD50	1060 mg/kg	Dermal	Mammal
LDLo	600 mg/kg	Oral	Rabbit
LDLo	600 mg/kg	Oral	Rabbit
LC50	5620 ppm (1 hour/hours)	Inhalation	Muskrat

Chronic effects on humans: Contains material which causes damage to the following organs: upper respiratory tract, skin, eye, lens or cornea, teeth.

Other toxic effects on humans: Very hazardous in case of skin contact (corrosive), of eye contact (corrosive), of ingestion.

Hazardous in case of inhalation (lung corrosive).

Specific effects

Carcinogenic effects: No known significant effects or critical hazards

Mutagenic effects: No known significant effects or critical hazards

Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards

Sensitization

Ingestion: May cause burns to mouth, throat and stomach

Inhalation: Irritating to respiratory system

Eyes: Corrosive to eyes.

Skin: Corrosive to skin

SECTION 12 Ecological Information

Ecotoxicity data - United States

Product/ingredient name: Acetic Acid

Species	Period	Result
Daphnia magna (EC50)	48 hour/hours	65 mg/l
Lepomis macrochirus (LC50)	96 hour/hours	75 mg/l
Pimephales promelas (LC50)	96 hour/hours	79 mg/l
Pimephales promelas (LC50)	96 hour/hours	88 mg/l

Environmental precautions: No known significant effects or critical hazards.

Products of degradation: These products are carbon oxides (CO, CO₂) and water.

Toxicity of the products of biodegradation: The products of degradation are less toxic than the product itself.

SECTION 13 Disposal Considerations

Waste disposal: The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

SECTION 14 Transport Information

DOT Classification: Acetic Acid Solution, 8, UN2790, PG II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

United States

HCS Classification:

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Highly toxic material
Corrosive material
Target organ effects

U.S. Federal regulations: TSCA 8(b) inventory. Listed

SARA 302/304/311/312 extremely hazardous substances: No products were found
SARA 302/304 emergency planning and notification: No products were found
SARA 302/304/311/312 hazardous chemicals: Acetic Acid
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Acetic Acid:
Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found
Clean Water Act (CWA) 311: Acetic Acid
Clean Air Act (CAA) 112 accidental release prevention: No products were found
Clean Air Act (CAA) 112 regulated flammable substances: No products were found
Clean Air Act (CAA) 112 regulated toxic substances: No products were found

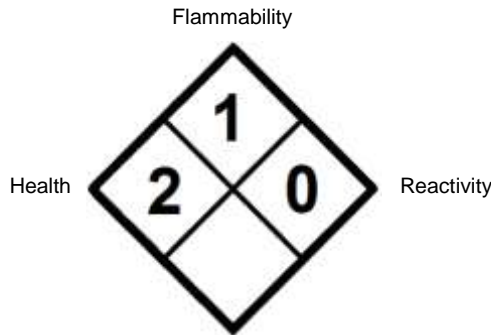
State regulations:

Pennsylvania RTK: Acetic Acid: (generic environmental hazard)
Massachusetts RTK: Acetic Acid
New Jersey: Acetic Acid: Water

Canada
WHMIS (Canada): Class E: Corrosive material
Class B3: Combustible Liquid
CEPA DSL/CEPA NDSL: CEPA DSL: Acetic Acid: Water

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16 Additional Information



Revisions

3/4/2009	0.3	updated msds with current information. STN
10/12/2011	0.4	Revised DOT from pg II to pg III and updated to 16 section msds. LS

The information herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty either expressed or implied is made for the completeness or accuracy of the information whether originating from the above mentioned company or not. Users of this material should satisfy themselves by independent investigation of current scientific and medical knowledge that the material can be used safely.