

# MATERIAL SAFETY DATA SHEET

Acetic Anhydride

## SECTION 1 . Product and Company Identification

Product Name and Synonym: Acetic Anhydride  
Product Code: A1325  
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:	3			
Flammability:	2			
Reactivity:	2			
Hazard Rating:				
Least	Slight	Moderate	High	Extreme
0	1	2	3	4
NA=Not Applicable		NE=Not Established		

## SECTION 2 HAZARD IDENTIFICATION

Causes severe irritation and burns. Harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Physical state: Liquid

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

Emergency overview:

DANGER!

CAUSES SEVERE EYE AND SKIN BURNS  
HARMFUL IF INHALED OR SWALLOWED  
CAUSES SEVERE RESPIRATORY TRACT IRRITATION  
FLAMMABLE LIQUID AND VAPOR  
VAPOR MAY CAUSE FLASH FIRE  
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: LUNGS, RESPIRATORY TRACT,  
SKIN, EYES

Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Avoid contact with skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

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

Potential acute health effects:

Inhalation: Toxic by inhalation. Severely irritating to the respiratory system.  
Ingestion: Toxic if swallowed. May cause burns to mouth, throat and stomach.  
Skin: Severely corrosive to the skin. Causes severe burns.  
Eyes: Severely corrosive to the eyes. Causes severe burns.

Potential chronic health effects

Carcinogenicity: No known significant effects or critical hazards.  
Mutagenicity: No known significant effects or critical hazards.  
Teratogenicity: No known significant effects or critical hazards.  
Developmental effects: No known significant effects or critical hazards.

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Fertility effects: No known significant effects or critical hazards.  
Target organs: No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11).

### SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input type="checkbox"/>	Acetic Anhydride	CAS# 108-24-7	100%	V/V	5 ppm (20 mg/mf) OSHA TWA

### SECTION 4 FIRST AID MEASURES

Causes severe irritation and burns. Harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. 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.

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: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

### SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type: Water spray, dry chemical, carbon dioxide, alcohol foam

Fire / Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back.

Fire Fighting Procedure: Use water spray to cool fire exposed containers.

### SECTION 6 ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area of spill. Wear full protective equipment and NIOSH/MSHA approved respirator.

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personal from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section

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13). Use spark-Proof tools and explosion- proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water- soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

**SECTION 7 HANDLING AND STORAGE**

Store in a cool, dry, well-ventilated place away from incompatible materials. Wash thoroughly after handling.

**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: Goggles and Face Shield

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

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ACGIH TLV (United States, 1/2008)

TWA: 5 ppm 8 hour(s)

TWA: 21 mg/m<sup>3</sup> 8 hour(s)

OSHA PEL 1989 (United States, 3/1989)

CEIL: 5 ppm

CEIL: 20 mg/m<sup>3</sup>

NIOSH REL (United States, 6/2008)

CEIL: 5 ppm

CEIL: 20 mg/m<sup>3</sup>

OSHA PEL (United States, 6/2008)

TWA: 5 ppm 8 hour(s)

TWA: 20 mg/m<sup>3</sup> 8 hour(s)

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

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.

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Recommended: splash goggles, face shield

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Body recommended: lab coat

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

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	-73° C	Percent Volatile by Volume:	100%
Boiling Point:	140° C	Evaporation Rate	0.46
Vapor Pressure:	4 mm Hg @ 20° C	Evaporation Standard	
Vapor Density:	3.5	Auto Ignition Temp	390° C
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	2.7%
Appearance /Odors:	Clear colorless liquid / strong vinegar odor	Upper Flamm. Limit in Air	10.3%
Flash Point:	49° C		
Specific Gravity:	1.08		

### SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	Heat, ignition sources, becomes unstable as temperature or pressure rises.
Materials to Avoid:	strong bases, oxidizable materials
Hazardous Decomposition Products:	Carbon oxides, acetic acid fumes
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

### SECTION 11 Toxicological Information

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LD50 Dermal Rabbit 4 mL/kg

LD50 Oral Rat 1780 mg/kg

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LC50 Inhalation Gas Rat 1000 ppm  
LC50 Inhalation Vapor Rat 1000 ppm

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.

### SECTION 12 Ecological Information

Environmental effects : No known significant effects or critical hazards.  
Other adverse effects : No known significant effects or critical hazards.

### SECTION 13 Disposal Considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

### SECTION 14 Transport Information

DOT Classification: Acetic Anhydride, 8, (3), UN1715, 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:  
Combustible liquid  
Toxic material  
Target organ effects  
Corrosive material

U.S. Federal regulations:

United States inventory (TSCA 8b): listed  
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notifications: No products were found.  
SARA 302/304/311/312 hazardous chemicals: Acetic Anhydride  
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: Acetic Anhydride  
Fire Hazard: Immediate (acute) health hazard, Delayed (chronic) health hazard  
Clean Water Act (CWA) 307: No products were found  
Clean Water Act (CWA) 311: No products were found  
Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.  
Clean Air Act (CAA) 112 regulated toxic substance: No products were found.

DEA List I Chemicals : not listed  
(Precursor Chemicals)  
DEA List II Chemicals : listed  
(essential Chemicals)

Massachusetts Substance : This material is listed.  
New Jersey Hazardous Substances : This material is listed.  
New York Acutely Hazardous Substances : This material is listed.  
Pennsylvania RTK Hazardous Substances : This material is listed.

Canada  
WHMIS (Canada) :  
Class D-1A: Material causing immediate and serious toxic effects (Very toxic)  
Class B-3: Combustible liquid with a flash point between 37.8 C (100 F) and 93.3 C (200 F)  
Class E: Corrosive material  
Canadian lists :  
CEPA Toxic Substance: This material is not listed.  
Canadian ARET: This material is not listed.  
Canadian NPRI: This material is not listed.  
Alberta Designated Substances: This material is not listed.

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Ontario Designated Substances: This material is not listed.  
Quebec Designated Substances: This material is not listed.  
CEPA DSL/ CEPA NDSL : CEPA DSL:  
This material is listed or exempted.  
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**SECTION 16 Additional Information**

Flammability

Health

Reactivity

**Revisions**

**NFPA**

	0.1	
1/12/2010	0.2	updated to 16 section msds from 10 section. Stn

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.