



#### 4. FIRST AID MEASURES

<b>General Advice</b>	Do not breathe dust/fume/gas/mist/vapors/spray.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water, also under the eyelids.
<b>Skin Contact</b>	Wash off immediately with plenty of water. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. Consult a physician.
<b>Ingestion</b>	Consult a physician. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
<b>Notes to Physician</b>	Treat symptomatically.
<b>Protection of First-aiders</b>	Use personal protective equipment.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable Properties</b>	Not flammable.			
<b>Flash Point Method</b>	> 100 °C / > 212 °F Closed cup			
<b>Explosion Data NFPA</b>	<b>Health Hazard</b> 1	<b>Flammability</b> 0	<b>Stability</b> 0	<b>Physical and Chemical Hazards</b> N/A

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.
<b>Methods for Containment</b>	Dike far ahead of spill to collect runoff water. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).
<b>Methods for Cleaning Up</b>	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not breathe vapors/dust.
<b>Storage</b>	Keep tightly closed in a dry and cool place. Keep at temperatures between 5°C and 32°C.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	= 15 ppm STEL TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>

n-Propyl alcohol 71-23-8	TWA: 100 ppm	TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 500 mg/m <sup>3</sup> (vacated) STEL: 250 ppm (vacated) STEL: 625 mg/m <sup>3</sup>	IDLH: 800 ppm TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> STEL: 250 ppm STEL: 625 mg/m <sup>3</sup>
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**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/Face Protection** Safety glasses with side-shields.

**Skin and Body Protection** Wear protective gloves/clothing.

**Respiratory Protection** In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

**Hygiene Measures** Do not eat, drink or smoke when using this product. General industrial hygiene practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Blue	<b>Odor</b>	Vinegar-like
<b>Physical State</b>	Liquid	<b>pH</b>	3.5 - 4.0
<b>Flash Point</b>	> 100 °C / > 212 °F	<b>Method</b>	Closed cup
<b>Autoignition Temperature</b>	No information available	<b>Boiling Point/Range</b>	No information available
<b>Freezing Point</b>	0 °C / 32 °F	<b>Flammability Limits in Air</b>	No information available
<b>Explosion Limits</b>	No information available	<b>Water Solubility</b>	Miscible with water
<b>Specific Gravity</b>	1.0	<b>Evaporation Rate</b>	No information available
<b>Solubility</b>	No information available	<b>Vapor Density</b>	No information available.
<b>Vapor Pressure</b>	No information available	<b>Actual VOC (lb/gal)</b>	0.17
<b>Weight per Gallon (lbs)</b>	8.33		
<b>EPA VOC (g/l)</b>	2.1		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable.
<b>Incompatible Products</b>	None known.
<b>Conditions to Avoid</b>	Do not freeze.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 1 h
n-Propyl alcohol	1870 mg/kg ( Rat )		13548 ppm ( Rat ) 4 h

**Chronic Toxicity**

**Chronic Toxicity** Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Acetic acid		LC50= 75 mg/L Lepomis macrochirus 96 h LC50= 88 mg/L Pimephales promelas 96 h	EC50 = 8.8 mg/L 15 min EC50 = 8.8 mg/L 25 min EC50 = 8.8 mg/L 5 min	EC50 = 95 mg/L 24 h
n-Propyl alcohol		LC50= 4480 mg/L Pimephales promelas 96 h	EC50 = 17700 mg/L 5 min EC50 = 45000 mg/L 5 h EC50 = 8686 mg/L 15 min EC50 = 980 mg/L 12 h	EC50 = 3642 mg/L 48 h

Chemical Name	Log Pow
Acetic acid	= -0.31 20 °C
n-Propyl alcohol	0.25 - 0.34

## 13. DISPOSAL CONSIDERATIONS

**Contaminated Packaging** Dispose of in accordance with local regulations.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Acetic acid - 64-19-7				
n-Propyl alcohol - 71-23-8				

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic; Corrosive; Ignitable
n-Propyl alcohol	Toxic; Ignitable

## 14. TRANSPORT INFORMATION

**DOT** Not regulated  
**UN-No** Not Regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies

PICCS Complies  
AICS Complies

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Acute Health Hazard No  
Chronic Health Hazard No  
Fire Hazard No  
Sudden Release of Pressure Hazard No  
Reactive Hazard No

#### Clean Water Act

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid 64-19-7 ( 0.4 - 0.6 )	5000 lb			X

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetic acid	64-19-7	0.4 - 0.6		Group II		

#### CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Acetic acid	5000 lb	

### U.S. State Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid	X	X	X		X
n-Propyl alcohol	X	X	X		X

### International Regulations

Mexico - Grade Slight risk, Grade 1



Chemical Name	Carcinogen Status	Exposure Limits
Acetic acid		Mexico: TWA= 10 ppm Mexico: TWA= 25 mg/m <sup>3</sup> Mexico: STEL= 15 ppm Mexico: STEL= 37 mg/m <sup>3</sup>
n-Propyl alcohol		Mexico: TWA= 200 ppm Mexico: TWA= 500 mg/m <sup>3</sup> Mexico: STEL= 250 ppm Mexico: STEL= 625 mg/m <sup>3</sup>

#### Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**  
Non-controlled

**16. OTHER INFORMATION**

NFPA	HMIS	PPE	Transport Symbol						
	<table border="1" style="border-collapse: collapse;"> <tr> <td style="background-color: #0000FF; color: white;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FF0000; color: white;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> <tr> <td style="background-color: #FFFF00; color: black;">Reactivity</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> </table>	Health Hazard	1	Fire Hazard	0	Reactivity	0		<p>Not regulated</p>
Health Hazard	1								
Fire Hazard	0								
Reactivity	0								

**Prepared By** David Jordan  
Director of R&D

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**Disclaimer**  
The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**