



**HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:**

**ACUTE INHALATION.....:** Overexposure to acetic acid vapors can cause irritation to the respiratory tract resulting in coughing, runny nose and sore throat. Inhalation of diethylene glycol vapors is unlikely due to its low vapor pressure. However, if misted or handled at elevated temperatures, high concentrations of diethylene glycol can produce drowsiness, headache, dizziness, and nausea.

**ACUTE SKIN CONTACT.....:** Direct contact with acetic acid is corrosive to the skin with symptoms of burning, reddening, itching, and swelling. Skin sensitization with acetic acid is rare, but has been reported.

**CHRONIC SKIN CONTACT.....:** Repeated or prolonged contact to 1-phenyl-3-pyrazolidone may cause an allergic skin reaction in sensitive individuals.

**ACUTE EYE CONTACT.....:** Overexposure to acetic acid can cause severe irritation and corrosion resulting in burning, stinging, reddening, swelling and possible injury to the cornea depending on the concentration of the acid. 1-Phenyl-3-pyrazolidone may be irritating to the eyes with symptoms of reddening, itching, and stinging.

**ACUTE INGESTION.....:** Swallowing concentrated acetic acid may cause severe injury. Ingestion of diethylene glycol can result in behavioral change, drowsiness, kidney and liver failure, and coma. The oral toxicity of diethylene glycol is greater in humans than in laboratory animals. The estimated single lethal dose-oral-human is 1.0 ml/kg. 1-Phenyl-3-pyrazolidone is expected to be harmful if swallowed.

**CARCINOGENICITY.....:** The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

**MEDICAL CONDITIONS**

**AGGRAVATED BY EXPOSURE.....:** Persons with preexisting eye, skin or respiratory tract disorders may be more susceptible to the effects of this product.

**4. FIRST AID MEASURES:**

**FIRST AID FOR EYES.....:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

**FIRST AID FOR SKIN.....:** Flush affected areas promptly with water and soap for 15 minutes. Remove contaminated clothing. In case of continued irritation consult physician.

**FIRST AID FOR INHALATION:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**FIRST AID FOR INGESTION.:** If swallowed, rinse mouth with plenty of water, call a Physician.

**5. FIRE FIGHTING MEASURES:**

**FLASH POINT.....:** Greater than 200 F (93 C)

**EXTINGUISHING MEDIA.....:** Material is not combustible. Use extinguishing media suitable for other combustible materials in the area.

**SPECIAL FIRE FIGHTING PROCEDURES:** Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES:**

**SPILL OR LEAK PROCEDURES.....:** Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dike Spill. Prevent liquid from entering sewers, waterways, or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. For disposal see section 13.

**7. HANDLING AND STORAGE:**

**STORAGE TEMPERATURE(MIN/MAX):** Store between 40 F (4.4 C) and 80 F (26 C).

Preferred storage is at 68 F (20 C).

**SHELF LIFE.....:** N.A.

**SPECIAL SENSITIVITY.....:** Keep from freezing.

HANDLING/STORAGE PRECAUTIONS: Avoid eye and skin contact, and store in well-ventilated area. Keep container tightly closed. Do not store with incompatible materials. Do not store or consume food, drink or tobacco in area where they may become contaminated with this material. For incompatibles see section 10.  
OTHER NOTES.....: Keep out of the reach of children.

**8. PERSONAL PROTECTION:**

PROTECTIVE CLOTHING REQUIREMENTS...: Splash protection required for eyes, e.g., eye glasses with side shields or goggles. For skin protection use chemical resistant gloves and aprons, e.g. made of neoprene, rubber or vinyl.

VENTILATION REQUIREMENTS.....: Use sufficient general room ventilation and/or local exhaust to maintain airborne levels of vapors below applicable exposure limits (see Section 2).

RESPIRATOR REQUIREMENTS.....: Workplace ambient concentrations should be monitored and if recommended exposure limits are exceeded a NIOSH/MSHA approved respirator should be worn. If respirators are used, institute a program in accordance with OSHA standard 29CFR10.10.134.

ADDITIONAL PROTECTIVE MEASURES.....: Emergency showers and eye wash stations should be made available. Educate and train employees in the safe use and handling of this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

PHYSICAL FORM.....: Liquid  
APPEARANCE.....: Clear  
COLOR.....: Colorless  
ODOR.....: Vinegar  
pH .....: 2.0  
BOILING POINT.....: Greater than 230 F (110 C)  
MELTING/FREEZING POINT...: Not Established  
SOLUBILITY IN WATER .....: Soluble  
SPECIFIC GRAVITY .....: 1.11  
BULK DENSITY.....: Not Established  
VAPOR PRESSURE .....: Not Established

**10. STABILITY AND REACTIVITY:**

STABILITY.....: This is a stable material.  
HAZARDOUS POLYMERIZATION...: Will not occur.  
INCOMPATIBILITIES.....: Strong alkali, oxidizers, metals  
INSTABILITY CONDITIONS.....: None known.  
DECOMPOSITION PRODUCTS.....: In case of fire oxides of CO<sub>2</sub>, carbon monoxide and other potentially toxic fumes can be generated due to thermal decomposition.

**11. TOXICOLOGICAL INFORMATION:**

TOXICITY DATA FOR: Acetic Acid  
ACUTE TOXICITY  
ORAL LD50.....: 3310 mg/kg (rat)  
DERMAL LD50.....: 1060 mg/kg (rabbit) (1)  
INHALATION LC50....: LC50: 5620 ppm/1 hr. (mouse) (2)  
EYE EFFECTS.....: Corrosive  
SKIN EFFECTS.....: Corrosive

1 Supplier Material Safety Data Sheet  
2 Occupational Health Services Material Safety Data Sheet

**12. ECOLOGICAL INFORMATION:**

NO ECOLOGICAL INFORMATION AVAILABLE

**13. DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL METHOD.....: Recover nonusable free liquid and/or contaminated water, and dispose of in an approved and permitted treatment system. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Discharge to sewer may require approval of permitting authority and may require pretreatment.

**14. TRANSPORTATION INFORMATION:**

TECHNICAL SHIPPING NAME.....: Aqueous Acetic Acid Solution  
PRODUCT LABEL.....: HD Developer Part B

DOT (DOMESTIC SURFACE)  
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PROPER SHIPPING NAME.....: Acetic Acid Solution  
HAZARD CLASS OR DIVISION .....: 8  
UN/NA NUMBER.....: UN2790  
PACKING GROUP .....: III  
DOT PRODUCT RQ lbs (kgs).....: 12,500 lbs (5670.0 kgs)  
HAZARD LABEL(s).....: Corrosive  
HAZARD PLACARD(s).....: Corrosive

Limited Quantity Exception may apply to this product, for "inner packagings not over 1.0 L (0.3 gal) for liquids and 1.0 kg (2.2 lb) for solids". 173.154(b)(1). Each package must conform to the packaging requirements of Subpart B of Part 173 and may not exceed 30 kg (66 lb) gross weight. For further information consult the 49 CFR.

IMO / IMDG CODE (OCEAN)  
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PROPER SHIPPING NAME.....: Acetic Acid Solution  
HAZARD CLASS DIVISION NUMBER...: 8  
UN NUMBER.....: UN2790  
PACKAGING GROUP.....: III  
HAZARD LABEL(s).....: Corrosive  
HAZARD PLACARD(s).....: Corrosive

ICAO / IATA (AIR)  
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PROPER SHIPPING NAME.....: Acetic Acid Solution  
HAZARD CLASS DIVISION NUMBER...: 8  
UN NUMBER.....: UN2790  
SUBSIDIARY RISK.....: None  
PACKING GROUP.....: III  
HAZARD LABEL(s).....: Corrosive  
RADIOACTIVE?.....: Non-Radioactive  
PASSENGER AIR - MAX. QTY. ....: 5 L  
PASSENGER PACKING INSTRUCTION..: 818  
CARGO AIR - MAX. QTY. ....: 60 L  
CARGO AIR PACKING INSTRUCTION..: 820

**15. REGULATORY INFORMATION:**

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS.....: On TSCA Inventory  
CERCLA REPORTABLE QUANTITY..: Acetic Acid (CAS# 64-19-7) 5,000 lbs.

SARA TITLE III:

SECTION 302 EXTREMELY  
HAZARDOUS SUBSTANCES...: None  
SECTION 311/312  
HAZARD CATEGORIES.....: Immediate Health Hazard  
SECTION 313  
TOXIC CHEMICALS.....: None

RCRA STATUS.....: When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Acetic Acid 64-19-7	35-40 %	PA1, PA4, MA, NJ1, NJ3
Diethylene glycol 111-46-6	60-65 %	PA1, NJ4
1-Phenyl-3-pyrazolidone 92-43-3	1-5 %	PA3, NJ4

MA = Massachusetts Hazardous Substance List  
NJ1 = New Jersey Hazardous Substance List  
NJ3 = New Jersey Special Health Hazardous Substance List  
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%  
PA1 = Pennsylvania Hazardous Substance List  
PA3 = Pennsylvania Non-hazardous present at 3% or greater.  
PA4 = Pennsylvania Environmental Hazardous Substance List.

**16. OTHER INFORMATION:**

HMIS RATINGS:           Health   Flammability   Reactivity   Personal Prot  
                          3           0           0           B  
                          0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe  
                          B=Safety Glasses, Gloves

AGFA's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS ratings are provided by AGFA as a customer service.

REASON FOR ISSUE.....: Reviewed, Harmonized  
PREPARED BY.....: S. Van Volkenburg  
APPROVED BY.....: M. Patrick  
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