

**Honeywell**

# Material Safety Data Sheet

## Acetaldehyde Oxime Aqueous Solution

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Acetaldehyde Oxime Aqueous Solution.  
**OTHER/GENERIC NAMES:** AAO / Acetaldoxime / Aldoximes

**PRODUCT USE:** Industrial chemical

**MANUFACTURER:** Honeywell  
 Specialty Chemicals  
 101 Columbia Road  
 Box 1053  
 Morristown, New Jersey 07962-1053

**FOR MORE INFORMATION CALL:**  
 (Monday-Friday, 9:00am-4:30pm)  
 1-800-707-4555

**IN CASE OF EMERGENCY CALL:**  
 (24 Hours/Day, 7 Days/Week)  
 800-424-9300 (CHEMTREC - Domestic)  
 703-527-3887 (CHEMTREC - International)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Acetaldehyde Oxime	107-29-9	49 - 51
Water	7732-18-5	49 - 51
Acetaldehyde	75-07-0	0.1

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Material is a clear solution that causes skin, eye and respiratory tract irritation. It contains small quantities of Acetaldehyde which is a possible cancer hazard (based on animal studies). Flammable.

#### POTENTIAL HEALTH HAZARDS

~~SKIN: Liquid contact causes slight irritation. May cause allergic dermatitis. Dermal toxicity is low.~~

**EYES:** Liquid contact causes severe irritation. Mist contact may cause irritation.

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**INHALATION:** Rated slightly toxic by this route. Mist or vapor may irritate the respiratory tract. Prolonged exposure or exposure to high concentrations may result in destruction of red blood cells.

**INGESTION:** Moderate to low oral toxicity. Expected to cause symptoms similar to those from inhalation.

**DELAYED EFFECTS:** Acetaldehyde Oxime contains small quantities of Acetaldehyde which is a possible cancer hazard (based on animal test data).

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
Acetaldehyde	Anticipated carcinogen	Possibly carcinogenic - 2B	None

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**4. FIRST AID MEASURES**

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**SKIN:** Immediately flush with large quantities of water while removing contaminated clothing. Get medical attention for irritation for irritation or any other symptom. Launder contaminated clothing before reuse.

**EYES:** Immediately flush with water, continuing for at least 15 minutes. Get immediate medical attention.

**INHALATION:** Remove to fresh air. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen provided a qualified operator is available. Get medical attention.

**INGESTION:** If conscious, give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Get immediate medical attention.

**ADVICE TO PHYSICIAN:** No additional instructions. Treat according to symptoms present.

**5. FIRE FIGHTING MEASURES**

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**FLAMMABLE PROPERTIES**

**FLASH POINT:** 133°F (56°C)

**FLASH POINT METHOD:** TAG Closed Cup.

**AUTOIGNITION TEMPERATURE:** Not determined

**UPPER FLAME LIMIT (volume % in air):** Not determined

**LOWER FLAME LIMIT (volume % in air):** Not determined

**FLAME PROPAGATION RATE (solids):** Not applicable.

**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide or water. Foam would be ineffective.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Thermal decomposition would be expected to produce carbon monoxide, carbon dioxide and oxides of nitrogen.

Do not breathe smoke or mist.

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**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

NIOSH approved self-contained breathing apparatus with full facepiece and protective clothing should be worn by fire fighters to prevent contact with skin and eyes. Use water spray to cool fire exposed containers and to knock down vapors.

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**6. ACCIDENTAL RELEASE MEASURES**

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**IN CASE OF SPILL OR OTHER RELEASE:** (Always wear recommended personal protective equipment.)

Eliminate sources of ignition. Provide ventilation to area. Absorb with inert absorbent and place in a closed, approved, labeled chemical waste container. For large spills, dike up with inert material and pump into same container. Do not allow pump to overheat. Do not allow to enter into sewers or waterways.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

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**7. HANDLING AND STORAGE**

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**NORMAL HANDLING:** (Always wear recommended personal protective equipment.)

Avoid contact with skin, eyes and clothing. Do not breathe product dust, vapor or mist. Use with adequate ventilation. Keep away from heat and open flame. Showering after work is recommended.

**STORAGE RECOMMENDATIONS:**

Store in a cool, dry, well ventilated area away from sources of ignition. Keep containers upright and closed. Protect from physical damage. Keep from freezing.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:**

General mechanical ventilation is recommended. Use local ventilation at product handling and transfer points.

**PERSONAL PROTECTIVE EQUIPMENT****SKIN PROTECTION:**

Under normal conditions, NBR (Nitrile-Butadiene Rubber) gloves and full work clothing are adequate. Wear impervious clothing if liquid contact is possible.

**EYE PROTECTION:**

Under normal conditions wear chemical safety glasses or goggles.

**RESPIRATORY PROTECTION:**

Not required for properly ventilated areas. If there is potential for inhalation of vapor or mist, use an appropriate NIOSH approved respirator.

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The respirator must be selected based on contamination levels and use conditions found in the workplace, must not exceed the working limits of the respirator and be approved by the National Institute for Occupational Safety and Health (NIOSH) and used in accordance with Occupational Safety and Health Administration (OSHA) 29 CFR 1910.134.

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**ADDITIONAL RECOMMENDATIONS:**

Provide eyewash stations and safety showers convenient to work areas.

**EXPOSURE GUIDELINES**

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Acetaldehyde Oxime	None	None	* 3 ppm TWA
Acetaldehyde	25 ppm STEL (ceiling), A3	100 ppm TWA 150 ppm STEL (ceiling)	None

\* = Limit established by Honeywell International, Inc.

\*\* = Workplace Environmental Exposure Level (AIHA).

\*\*\* = Biological Exposure Index (ACGIH).

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

None.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	Clear solution
<b>PHYSICAL STATE:</b>	Liquid
<b>MOLECULAR WEIGHT:</b>	59
<b>CHEMICAL FORMULA:</b>	CH <sub>3</sub> CH=NOH
<b>ODOR:</b>	Hardly discernable ethereal aroma.
<b>SPECIFIC GRAVITY (water = 1.0):</b>	0.98 gm/ml
<b>SOLUBILITY IN WATER (weight %):</b>	Complete.
<b>pH:</b>	8 - 9
<b>BOILING POINT:</b>	~ 225°F (107°C)
<b>MELTING POINT:</b>	Not determined.
<b>VAPOR PRESSURE:</b>	22 mm Hg @ 68°F (20°C) - Estimated.
<b>VAPOR DENSITY (air = 1.0):</b>	2.0 - Estimated.
<b>EVAPORATION RATE:</b>	Not determined <b>COMPARED TO:</b> Not applicable
<b>% VOLATILES:</b>	100%
<b>FLASH POINT:</b>	133°F (56°C)

(Flash point method and additional flammability data are found in Section 5.)

**10. STABILITY AND REACTIVITY****NORMALLY STABLE? (Conditions to avoid):**

Stable under normal conditions.

**INCOMPATIBILITIES:**

Do not expose to strong oxidizers, acids, alkalis or water reactive substances.

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**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition products include acetonitrile and acetaldehyde. Products of combustion may include carbon dioxide, carbon monoxide and oxides of nitrogen.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

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**11. TOXICOLOGICAL INFORMATION**

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**IMMEDIATE (ACUTE) EFFECTS:**

Inhalation 1 hr. LC<sub>50</sub> (rat) = > 5.7 mg/liter.

Oral LD<sub>50</sub> (rat) = ~ 1200 mg/kg

Dermal LD<sub>50</sub> (rabbit) = > 2000 mg/kg

High or prolonged exposures may increase methemoglobin levels and produce anemia.

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Subacute Data: Rats in a 90-day oral study showed anemia with spleen enlargement. This effect was seen at all dosage levels that were tested. This material has exhibited very low level mutagenic activity at high doses in vitro; however, mutagenicity tests in whole animals have been negative.

**OTHER DATA:**

None

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**12. ECOLOGICAL INFORMATION**

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Material is relatively biodegradable. > 98% SOC removal, 12.4% CO<sub>2</sub> evolution.

**Microbial Toxicity:**

> 5000 ppm/5 hr./activated sludge/IC<sub>50</sub>.

**Aquatic Toxicity:**

57 ppm/96 hr./rainbow trout/LC<sub>50</sub>/fresh water.

31 ppm/96 hr./bluegill/LC<sub>50</sub>/fresh water.

800 ppm/48 hr./water flea/LC<sub>50</sub>/fresh water.

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**13. DISPOSAL CONSIDERATIONS**

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**RCRA**

Is the unused product a RCRA hazardous waste if discarded? Yes

If yes, the RCRA ID number is: Acetaldehyde Oxime D001. Acetaldehyde U001.

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**OTHER DISPOSAL CONSIDERATIONS:** Disposal of Acetaldehyde Oxime may be subject to Federal, State and Local regulations. Review applicable regulations before discharging or disposing of waste material.



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The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14. TRANSPORT INFORMATION**

Proper Shipping Description: DOT - Acetaldehyde Oxime Solution, 3, UN 2332, III.  
 IMDG - beta-ACETALDEHYDE OXIME SOLUTION, CLASS 3.3, UN 2332, III.

Label(s) Required: Class 3, Flammable Liquid.

NA Emergency Response Guidebook: Guide No. 129.

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

**15. REGULATORY INFORMATION**

**TOXIC SUBSTANCES CONTROL ACT (TSCA)**

TSCA INVENTORY STATUS: Listed on the TSCA Inventory

OTHER TSCA ISSUES: None.

**SARA TITLE III/CERCLA**

RQs & TPQs

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPO (lb)</u>
Acetaldehyde	1000	None

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Immediate, Delayed, Fire.

**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals". CAS #'s and wt. % percents are found in Section 2.

<u>INGREDIENT NAME</u>	<u>COMMENT</u>
Acetaldehyde	DeMinimis concentration is 0.1%.

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**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME****WEIGHT %****COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION:**

Acetaldehyde is on the California Proposition 65 List of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.

**WHMIS CLASSIFICATION (CANADA):**

Not determined.

**FOREIGN INVENTORY STATUS:**

Acetaldehyde Oxime is on the following inventories:

EINECS. EINECS No. 2034796.

Canadian NDSL.

Korean.

Australian.

Philippine.

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**16. OTHER INFORMATION**

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**CURRENT ISSUE DATE:** May 19, 2000.

**PREVIOUS ISSUE DATE:** February 23, 2000.

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

Amended Potential Health Hazards (Ingestion), Section 3.

**OTHER INFORMATION:** HMIS/NFPA Rating

Health - 2

Flammability - 2

Reactivity - 0