

MATERIAL SAFETY DATA SHEET



AD-Here® HP Plus

Date Issued: 02/15/2008

MSDS No: ZA70800 (AD-Here HP Plus)

Date Revised: 01/06/2010

Revision No: 8

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AD-Here® HP Plus
GENERAL USE: Liquid anti-strip
PRODUCT DESCRIPTION: Modified polyamine blend
PRODUCT CODE: ZA70800 (AD-Here HP Plus)
CHEMICAL FAMILY: Amine

MANUFACTURER

ArrMaz Custom Chemicals
 Mulberry, FL
 4800 State Rd. 60 East
 Mulberry, FL 33860

Emergency Contact: Richard Gillette

Product Stewardship: 863-578-1221

Alternate Emergency Phone: 863-578-1206

24 HR. EMERGENCY TELEPHONE NUMBERS

CANUTEC (Canadian Transportation) :(613) 996-6666

CHEMTREC (US Transportation) :(800) 424-9300

ArrMaz Custom Chemicals: (863) 578-1206

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Liquid

IMMEDIATE CONCERNS: Danger! Corrosive! This product can cause severe burns to the eyes, skin, mouth and throat. Developmental hazards/birth defects and negative reproductive effects have been noted in laboratory animal tests using pure aminoethylethanolamine (AEEA). Avoid oral and dermal contact. Exposure to AEEA should be minimized, especially for female employees. A No Effect Level (NOEL) has not been determined for AEEA.

POTENTIAL HEALTH EFFECTS

EYES: Causes severe irritation or burns, may cause blindness.

SKIN: May cause skin corrosion, burns or ulcers. Skin permeation may occur in amounts capable of producing the effect of systemic toxicity.

SKIN ABSORPTION: May be absorbed through the skin in harmful amounts.

INGESTION: Harmful when swallowed. May cause burns to the digestive tract. May also cause collapse of blood pressure. Repeated exposures may also cause weight loss.

INHALATION: Irritation and burns to the respiratory system may occur accompanied with heartburn, nausea, vomiting and diarrhea. Repeated exposure may cause asthma like effects.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Causes eye irritation.

SKIN: Prolonged contact may cause irritation.

INHALATION: Prolonged or excessive inhalation will cause respiratory tract irritation.

CHRONIC EFFECTS: Not determined

CARCINOGENICITY: No evidence of potential carcinogenicity.

MUTAGENICITY: Not determined.

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: Not determined.

TERATOGENIC EFFECTS: Contains AEEA which in pure form has been established as a teratogen by ingestion in laboratory animals. Refer to Section 11 for specific information.

ROUTES OF ENTRY: Eyes, skin, lungs or gastrointestinal.

SENSITIZATION: May cause allergic skin reaction.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Bis-Hexamethylenetriamine	> 30	143-23-7	205-593-1
Aminoethylethanolamine (AEEA)	> 1	111-41-1	203-867-5

COMMENTS: Hazardous as defined by OSHA 29 CFR 1910.1200. See Section 2 for Hazard Identification and Section 8 for Exposure Guidelines and Section 16 for Other Information.

4. FIRST AID MEASURES

EYES: Flush eyes with water for 15 minutes. Get medical attention.

SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if rash develops. Wash contaminated clothing before reuse.

INGESTION: Get medical attention immediately. Do not induce vomiting.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > 121°C (250°F) Pensky-Martens CC

FLAMMABLE LIMITS: Not determined

EXTINGUISHING MEDIA: CO₂, foam, or dry chemical.

EXPLOSION HAZARDS: None.

FIRE FIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂, NO_x, and other thermal decomposition by-products.

6. ACCIDENTAL RELEASE MEASURES**ENVIRONMENTAL PRECAUTIONS**

WATER SPILL: Do not allow to enter waterways.

GENERAL PROCEDURES: IN CASE OF SPILLS:

No action shall be taken involving personal risk without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering spill area. Do not touch or walk through material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate Personal Protective Equipment (PPE). Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Absorb with materials such as: Clay. Dirt. Milsorb. Sand. Do NOT use absorbent materials such as: Cellulose. Sawdust. After all visible traces have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Collect any wash water for disposal. Dispose of according to local, state and federal regulations. Advise authorities if material has entered or may enter waterways or sewer drains.

COMMENTS: Waste disposal: Incinerate or bury in certified landfill according to federal, state and local

regulations.

7. HANDLING AND STORAGE

HANDLING: Avoid eye and skin contact. Avoid breathing vapors or mists of this material. Use only with adequate ventilation. Keep away from heat, sparks or open flame. After emptied, drum may retain solid, liquid and/or vapor residues.

STORAGE: Avoid extreme heat conditions. If the additive becomes frozen, apply heat gradually to avoid localized overheating near heat transfer surfaces. Apply heat until desired temperature and/or viscosity is achieved. Gentle agitation or stirring is recommended to ensure additive homogeneity.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

SKIN: Impervious rubber or plastic.

RESPIRATORY: NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

PROTECTIVE CLOTHING: Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Ammoniacal

APPEARANCE: Dark brown liquid.

COLOR: Dark brown.

VAPOR PRESSURE: Not determined

VAPOR DENSITY: > 1 (Air=1)

BOILING POINT: > (300°F)

FLASHPOINT AND METHOD: > 121°C (250°F) Pensky-Martens CC

SOLUBILITY IN WATER:

Slight

SPECIFIC GRAVITY: 0.98 to 1.02 @ 77 degrees F.

VISCOSITY: Not determined

10. STABILITY AND REACTIVITY

STABILITY: Stable.

POLYMERIZATION:

None

CONDITIONS TO AVOID: Extreme heat

POSSIBILITY OF HAZARDOUS REACTIONS:

None

HAZARDOUS DECOMPOSITION PRODUCTS: No decomposition if used and stored according to specifications.

INCOMPATIBLE MATERIALS: Strong oxidizers and materials that will react with amine products. Do not allow prolonged contact of additive with copper, copper alloys, brass, bronze or galvanized steel as these types of metals will corrode at an accelerated rate.

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD ₅₀ (rat)
Bis-Hexamethylenetriamine	450 mg/kg (rat)

EYE EFFECTS: Direct contact will cause severe irritation, pain and burns, possibly severe. The degree of injury depends on the concentration and duration of contact. The full extent of the injury may not be immediately apparent.

SKIN EFFECTS: Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in dermatitis or effects similar to acute exposure.

CHRONIC: Not Established

CARCINOGENICITY

IARC: Not listed.

NTP: Not listed.

OSHA: Not listed.

CORROSIVITY: Not Established

NEUROTOXICITY: Not Established

REPRODUCTIVE EFFECTS: Not Established

TARGET ORGANS: Not Established

TERATOGENIC EFFECTS: Studies have shown teratogenetic effects for rats specific to Aminoethylethanolamine (AEEA) only.

MUTAGENICITY: Not Established

COMMENTS: THE FOLLOWING IS SPECIFIC FOR AEEA ONLY:

Sensitization

Skin

Skin contact may cause an allergic skin reaction. Individuals who have had an allergic skin reaction to similar materials may have an allergic reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA). Has caused allergic skin reactions when tested in mice. Has caused allergic reactions when tested in guinea pigs.

Repeated Dose Toxicity

Avoid all oral and dermal contact. In animals, effects have been reported on the following organs: gastrointestinal tract, kidney and fetal development. Repeated skin application to laboratory animals did not produce systemic toxicity.

Developmental Toxicity

Avoid all oral and dermal contact. Has caused birth defects in laboratory animals.

Reproductive Toxicity

Avoid all oral and dermal contact. Has been toxic to the fetus in laboratory animal tests.

Genetic Toxicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Oral LD50 (rat) - 2000 to 4000 mg/kg

Dermal LD50 (rabbit) - 3266 mg/kg

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer or to allow entry into any waterways.

ECOTOXICOLOGICAL INFORMATION: Not determined

BIOACCUMULATION/ACCUMULATION: Not determined

AQUATIC TOXICITY (ACUTE): 96h LC50 (fatheads minnows) - 1 mg/L < LC50 ≤ 10 mg/L

COMMENTS: THE FOLLOWING IS SPECIFIC FOR AEEA ONLY:

CHEMICAL FATE

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henry's Law Constant (H): 8.8E-10 atm*m3/mole; 25°C Estimated.

Partition coefficient, n-octanol/water (log Pow); -1.346 Measured.

Partition coefficient, soil organic carbon/water (Koc); 3.5 Estimated.

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant: 1.20E-10 cm3/s

Atmospheric Half-life: 1.1 h

Method: Estimated

OECD Biodegradation Tests:

Biodegradation: >97%

Exposure Time: 28d

Method: OECD 301F Test

Biological oxygen demand (BOD)

BOD 5: 2%

BOD 10: 64%

BOD 20: 90%

Theoretical Oxygen Demand: 2.77 mg/mg

ECOTOXICITY

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Fish acute & Prolonged Toxicity

LC50, fathead minnow (Pimephales promelas), 96 h: 520 - 628 mg/L

Aquatic Invertebrate Acute Toxicity

EC50, water flea (Daphnia magna), 48 h, immobilization: 65 mg/L

Aquatic Plant Toxicity

EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: 210 mg/L

Toxicity to micro-organisms

EC50, bacteria, Growth inhibition, 16 h: >5,000 mg/L

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characteristics and compliance with applicable laws are the responsibility solely of the waste generator.

ArrMaz Custom Chemicals HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition information.

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted, recycler, incinerator or other thermal destruction device.

EMPTY CONTAINER: Empty container may contain product residue and should not be reused.

RCRA HAZARD CLASS: D002 RCRA Hazardous Waste

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Corrosive Liquids, Toxic, N.O.S.

TECHNICAL NAME: Bis-Hexamethylenetriamine, Hexamethylenediamine, Aminoethylethanolamine

PRIMARY HAZARD CLASS/DIVISION: 8

SECONDARY HAZARD CLASS/DIVISION: 6.1

UN/NA NUMBER: UN 2922

PACKING GROUP: II

PLACARDS: Corrosive 8, Toxic 6.1

LABEL: Corrosive 8, Toxic 6.1

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate and delayed health

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

313 REPORTABLE INGREDIENTS: Contains no SARA 313 reportable ingredients.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Contains no CERCLA listed compounds

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Bis-Hexamethylenetriamine	143-23-7
Aminoethylethanolamine (AEEA)	111-41-1

TSCA REGULATORY: All of this product's components are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

RCRA STATUS: D002 Hazardous Waste

OSHA HAZARD COMM. RULE: OSHA (29 CFR 1910.1200): Eye, skin and respiratory irritant.

16. OTHER INFORMATION

REASON FOR ISSUE: New

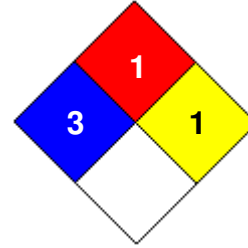
APPROVED BY: Pat Lavin **TITLE:** Product Manager

PREPARED BY: Richard Gillette

REVISION SUMMARY: Revision #: 8. This MSDS replaces the January 06, 2010 MSDS. Any changes in information are as follows: In Section 5: Flash Point °C (From)

HMIS RATING

HEALTH:	3
FLAMMABILITY:	1
PHYSICAL HAZARD:	1
PERSONAL PROTECTION:	X

NFPA CODES

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