


# Safety Data Sheet

Adena 2349

## SECTION I - IDENTIFICATION

|   |  |
|---|--|
|  | Adena Technologies<br>101 Technology Lane<br>Export, PA 15632<br>(888) 247-8082<br>CHEMTEL :..... (800) 225-3924 |
|---|--|

|                 |  |
|-----------------|--|
| Product Number  | AD2349                                     |
| Product Name    | Adena 2349                                 |
| Chemical Family | COMPOUND, INDUSTRIAL BOILER WATER TREATING |
| CAS Number      | Multiple                                   |
| Date Prepared   | 10/8/2015                                  |
| Revision Number | 10/8/2015                                  |
| Recommended Use | BOILER WATER OXYGEN SCAVENGER              |

## SECTION II - HAZARDOUS IDENTIFICATION

### GHS CLASSIFICATION:

#### Classification

|  |                   |
|--|-------------------|
| Corrosive to Metals                                | Category 1        |
| Acute Toxicity, Oral                               | Category 4        |
| Acute Toxicity, Dermal                             | Category 4        |
| Skin Corrosion/Irritation                          | Category 1A, B, C |
| Serious Eye Damage/Eye Irritation                  | Category 1        |
| Acute Toxicity, Inhalation                         | Category 4        |
| Carcinogenicity                                    | Category 2        |
| Hazardous to the aquatic environment, acute hazard | Category 3        |

### DANGER!

#### GHS LABEL:



#### Hazard Statements

|      |                                    |
|------|------------------------------------|
| H290 | May be corrosive to metals         |
| H302 | Harmful if swallowed               |
| H312 | Harmful in contact with skin       |
| H314 | Causes severe burns and eye damage |
| H318 | Causes serious eye damage          |
| H332 | Harmful if inhaled                 |
| H351 | Suspected of causing cancer        |

H402 Harmful to aquatic life

**Precautionary Statements**

|              |   |
|--------------|---|
| P201         | Obtain special instructions before use.   |
| P202         | Do not handle until all safety precautions have been read and understood.   |
| P234         | Keep only in original packaging   |
| P260         | Do not breathe dust/fume/gas/mist/vapours/spray.  |
| P261         | Avoid breathing dust/fume/gas/mist/vapours/spray.   |
| P264         | Wash... thoroughly after handling.  |
| P270         | Do not eat, drink or smoke when using this product.   |
| P271         | Use only outdoors or in a well-ventilated are.  |
| P273         | Avoid release to the environment.   |
| P280         | Wear protective gloves/protective clothing/eye protection/face protection.  |
| P301+312     | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  |
| P301+330+331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  |
| P302+352     | IF ON SKIN: Wash with plenty of water/...   |
| P303+361+353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.                       |
| P304+340     | IF INHALED: Remove victim to fresh air and keep comfortable for breathing.  |
| P305+351+338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing. |
| P308+313     | IF exposed or concerned: get medical advice/attention.  |
| P310         | Immediately call a POISON CENTER or doctor/physician.   |
| P312         | Call a POISON CENTER or a doctor/physician if you feel unwell.  |
| P321         | Specific treatment (see ... on this label).   |
| P330         | Rinse mouth.  |
| P362+364     | Take off immediatley all contaminated clothing and wash it before reuse.  |
| P363         | Wash contaminated clothing before reuse.  |
| p390         | Absorb spillage to prevent material damage.   |
| P405         | Store locked up.  |
| P406         | Store in a corrosive resistant/... container with a resistant inner liner.  |
| P501         | Dispose of contents/container to...   |

## Safety Data Sheet

Adena 2349

### SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

| Component Name               | CAS #       | Component% | OSHA PEL                      | ACGIH TLV                     |
|------------------------------|-------------|------------|-------------------------------|-------------------------------|
| Water                        | 7732-18-5   | Balance    | Not Established               | Not Established               |
| 1,4-Dioxane                  | 123-91-1    | < 1.0      | 100 ppm                       | 20 ppm                        |
| Organophosphorus compound    | Proprietary | 0.5-1.0    | 1,4-Dioxane<br>25ppm          | 1,4-Dioxane<br>20ppm          |
| SODIUM SULFITE               | 7757-83-7   | 6-8        | Not Established               | Not Established               |
| Morpholine                   | 110-91-8    | 2.0-2.5    | 20 ppm                        | 20 ppm                        |
| POLYACRYLIC ACID HOMOPOLYMER | 68479-09-4  | 2-4        | NOT<br>ESTABLISHED            | NOT<br>ESTABLISHED            |
| Potassium hydroxide          | 1310-58-3   | 8-10       | 2 mg/m <sup>3</sup> , Ceiling | 2 mg/m <sup>3</sup> , Ceiling |

### SECTION IV - FIRST AID MEASURES

**Contact with eyes:** Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eyespecialist.

**Skin contact:** For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes.

**Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Avoid Mouth to mouth resuscitation Seek immediate medical attention.

**Ingestion:** Call a physician or poison control center immediately. Do not induce vomiting. Immediately rinse mouth and drink plenty of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Do not use mouth-to-mouth method if victim ingested the substance.

### SECTION V - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** As appropriate for the surrounding fire.

**Special Fire Fighting Procedures** Do not flush down sewers or other drainage systems.

Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surface should be exposed.

**Unusual Fire Fighting Hazards:** Fire causes formation of toxic gases.

## Safety Data Sheet

Adena 2349

### SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (Also see Section 8).
- Environmental Precautions:** Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: Dike far ahead of liquid spill for later disposal.  
Avoid release to the environment. To prevent release, place container with damaged side up.
- Methods for Cleaning Up:** Small spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: Dike far ahead of liquid spill for later disposal.

### SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Keep container closed. Use only with adequate ventilation. Use good personal hygiene practices. Wash hands before eating, drinking, smoking. Remove contaminated clothing and clean before re-use.
  - Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store in corrosive resistant container with a resistant inner liner. Store away from incompatible materials (See Section 10). Store at temperatures not exceeding 40°C/104°F. Compatible storage materials may include, but not be limited to, the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP, or Derakane vinyl ester resin. Do not allow material to freeze.

### SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

#### EXPOSURE LIMITS:

| Component Name               | CAS #       | OSHA PEL                      | ACGIH TLV                     |
|------------------------------|-------------|-------------------------------|-------------------------------|
| Water                        | 7732-18-5   | Not Established               | Not Established               |
| 1,4-Dioxane                  | 123-91-1    | 100 ppm                       | 20 ppm                        |
| Organophosphorus compound    | Proprietary | 1,4-Dioxane 25ppm             | 1,4-Dioxane 20ppm             |
| SODIUM SULFITE               | 7757-83-7   | Not Established               | Not Established               |
| Morpholine                   | 110-91-8    | 20 ppm                        | 20 ppm                        |
| POLYACRYLIC ACID HOMOPOLYMER | 68479-09-4  | NOT ESTABLISHED               | NOT ESTABLISHED               |
| Potassium hydroxide          | 1310-58-3   | 2 mg/m <sup>3</sup> , Ceiling | 2 mg/m <sup>3</sup> , Ceiling |

- Engineering Controls:** Local exhaust ventilation may be necessary to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Provide mechanical ventilation for confined spaces. Use explosion-proof ventilation equipment.
- Monitoring:** When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

#### Personal Protective Equipment (PPE)

## Safety Data Sheet

Adena 2349

- Eye Protection:** Wear chemical safety goggles and face shield. Have eye-wash stations available where eye contact can occur.
- Skin Protection:** Avoid skin contact. Wear gloves impervious to conditions of use. Additional protection may be necessary to prevent skin contact including use of apron, face shield, boots or full body protection. A safety shower should be located in the work area.
- Respiratory Protection:** If exposure limits are exceeded, NIOSH approved respiratory protection should be worn. A NIOSH approved respirator for organic vapors is generally acceptable for concentrations up to 10 times the PEL. For higher concentrations, unknown concentrations and for oxygen deficient atmospheres, use a NIOSH approved air-supplied respirator. Engineering controls are the preferred means for controlling chemical exposures. Respiratory protection may be needed for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA 29 CFR 1910.134.

### SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

|                           |                           |
|---------------------------|---------------------------|
| Appearance                | Clear, pale yellow liquid |
| Odor                      | SLIGHT AMINE ODOR         |
| pH@25°C                   | 12.0-13.99                |
| Melting/Freezing Point    | NO DATA                   |
| Flashpoint                | NOT FLAMMABLE             |
| Specific Gravity          | 1.22                      |
| Solubility                | COMPLETE                  |
| Auto-Ignition Temperature | NO DATA                   |
| Decomposition Temperature | NO DATA                   |
| VOC Content               | NO DATA                   |
| Odor Threshold            | NO DATA                   |
| Boiling Range             | 100-110°C                 |
| Evaporation Point         | NO DATA                   |
| Flammable Limits - Upper  | N/A                       |
| Flammable Limits - Lower  | N/A                       |
| Vapor Pressure            | NE (NOT ESTABLISHED)      |
| Vapor Density (Air=1)     | NE (NOT ESTABLISHED)      |
| Viscosity                 | 60-80 CPS                 |

### SECTION X - STABILITY AND REACTIVITY

- Stability:** Stable, under normal conditions of storage and handling.
- Conditions to Avoid:** Contact with incompatible materials.
- Hazardous Decomposition/Byproducts:** Contact with metals (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

## Safety Data Sheet

Adena 2349

**Hazardous Polymerization:** Will not occur.

**Polymerization Conditions to Avoid:** None

**Incompatibilities:** Strong acids, Aluminum, Tin, Zinc, chlorinated hydrocarbons, Acetone

### SECTION XI - TOXICOLOGICAL INFORMATION

**Likely Route of Exposure:** Inhalation, Skin, Eye, Ingestion.

**Inhalation:** Can cause damage to nasal and respiratory passages.

**Eye Contact:** May cause severe conjunctival irritation and corneal damage.

**Skin Contact:** May cause reddening, blistering or burns with permanent damage. Harmful if absorbed through the skin. May cause allergic skin reaction.

**Ingestion:** Causes corrosion, burns to mouth and esophagus, abdominal pain, chest pain, nausea, vomiting, diarrhea, seizures. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

**Acute Toxicity Value:** See Health Hazards below.

**Chronic (Long Term) Effects:** Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.  
Repeated or prolonged exposure may cause dermatitis.  
Repeated or prolonged exposure to this materials or fumes may cause conjunctivitis.  
Repeated or prolonged exposure to corrosive materials or fumes may cause Gastrointestinal disturbances

#### Toxicity:

| Component Name            | LD50   | LC50                                  |
|---------------------------|--|---------------------------------------|
| Water                     | Not Established  | Not Established                       |
| 1,4-Dioxane               | Oral - Rat - 4,200 mg/kg;<br>Dermal - Rabbit - 7,858 mg/kg | Inhalation - Rat - 2 h - 46,000 mg/m3 |
| Organophosphorus compound | LD50 Dermal Rabbit >6310 mg/kg, Oral Rat 2100 mg/kg        | Not Established                       |

## Safety Data Sheet

Adena 2349

|                                 |  |   |
|---------------------------------|--|---|
| SODIUM SULFITE                  | Oral rat: 2610mg/kg                              | Inhalation rat: >5.5 mg/l 4 hr.                     |
| Morpholine                      | Dermal Rabbit 500 mg/kg Oral<br>Rat 1,1910 mg/kg | Inh.Rat 8 mg/l                                      |
| POLYACRYLIC ACID<br>HOMOPOLYMER | ORAL RAT >2000 mg/kg                             | Fish- (96h) > 100 mg/l- L9Fish-<br>(96h) > 100 mg/l |
| Potassium hydroxide             | Oral - Rat - 333 mg/kg                           | Not Established                                     |

**Reproductive Effects** Not Applicable

**Teratogenicity** Not Applicable

**Mutagenicity** Not Applicable

**Embryotoxicity** Not Applicable

**Sensitization to Product** Not Applicable

**Synergistic Products** Not Applicable

**Carcinogenicity** 1,4-Dioxane: IARC rating of 2B

### SECTION XII - ECOLOGICAL INFORMATION

**Ecotoxicity:** Harmful to aquatic life.

**Mobility:** Information not available.

**Degradability:** BIODEGRADATION: BIODEGRADABLE

**BioAccumulation:** Not expected to bioaccumulate.

### SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste (residues/unused products): Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## Safety Data Sheet

Adena 2349

### SECTION XIV - TRANSPORT INFORMATION

#### DOT SHIPPING INFORMATION

**Proper Shipping Name:** CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.

**Contains:** POTASSIUM HYDROXIDE, MORPHOLINE

**Hazard Class and Label:** 8

**Identification Number:** UN3266

**Packaging Group:** III

**Other Shipping Info:** Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

SPECIAL PRECAUTIONS FOR USER: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### SECTION XV - REGULATORY INFORMATION

**TSCA STATUS:**..... The components of this product are listed on the TSCA Inventory

#### SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

#### SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

| Acute | Chronic | Fire | Pressure | Reactive |
|-------|---------|------|----------|----------|
| X     | X       | N/A  | N/A      | X        |

#### SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

| Component Name | CAS #     | % by wt. |
|----------------|-----------|----------|
| 1,4-Dioxane    | 123-91-1  | < 1.0    |
|                | 1310-58-3 | 8-10     |

#### CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

| Component Name      | CAS #     | % by wt. | RQ (lbs.) |
|---------------------|-----------|----------|-----------|
| 1,4-Dioxane         | 123-91-1  | < 1.0    | 100       |
| 1,4-Dioxane         | 123-91-1  | 0.5-1.0  | 100       |
| Morpholine          | 110-91-8  | 2.0-2.5  | 100 LBS   |
| Potassium Hydroxide | 1310-58-3 | 8-10     | 1,000     |

#### CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 123-91-1 (1,4-DIOXANE)

This product contains the following chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm. CAS# 110-91-8 (110-91-8)

### SECTION XVI - OTHER INFORMATION

**HMIS Health:**..... 3

**HMIS Flammability:** ..... 0



## Safety Data Sheet

Adena 2349

HMIS Reactivity:.....0

**Additional:**

Disclaimer: The information contained herein is accurate to the best of our knowledge. No warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.