


Safety Data Sheet

Adena 4034

SECTION I - IDENTIFICATION

	Adena Technologies 101 Technology Lane Export, PA 15632 (888) 247-8082 CHEMTEL :..... (800) 225-3924
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Product Number	AD4034
Product Name	Adena 4034
Chemical Family	Water Treatment Compound, Liquid
CAS Number	Multiple
Date Prepared	11/19/2015
Revision Number	11/19/2015
Recommended Use	BOILER FEED WATER OXYGEN SCAVENGER

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Corrosive to Metals	Category 1
Acute Toxicity, Oral	Category 5
Acute Toxicity, Dermal	Category 4
Skin Corrosion/Irritation	Category 2
Sensitization, Skin	Category 1
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4
Reproductive Toxicity	Category 2
Specific target organ toxicity, repeated exposure	Category 2
Hazardous to the aquatic environment, acute hazard	Category 3

WARNING!

GHS LABEL:



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Hazard Statements

H290	May be corrosive to metals
H303	May be harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child
H373	Causes damage to organs through prolonged or repeated exposure
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.
P271	Use only outdoors or in a well-ventilated are.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
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.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P333+313	If skin irritation or a rash occurs: Get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.

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P362+364	Take off immediately all contaminated clothing and wash it 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...

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
Diethyroxylamine	3710-84-7	2.0-3.0	None Listed	None Listed
SODIUM SULFITE	7757-83-7	8-12	Not Established	Not Established
Hydroquinone	123-31-9	< 1.0	2 mg/m3	1 mg/m3
Diethylamine	109-89-7	< 1.0	10 ppm	5 ppm

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: Immediately wash thoroughly with plenty of water, apply sterile dressings, and consult a skin specialist.

Inhalation: Keep patient calm, remove to fresh air, and seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

Ingestion: If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting. Obtain medical attention immediately if ingested. Do not use mouth-to-mouth method if victim ingested the substance. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: water spray, dry powder, foam, carbon dioxide

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
Do not flush down sewers or other drainage systems.

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Unusual Fire Fighting Hazards: IN CASE OF FIRE, IT WILL EMIT NITROGEN OXIDES, AMMONIA, AND CARBON MONOXIDE.

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: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

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.
- Store in tightly closed original container in a dry, cool and well-ventilated place. Keep containers tightly closed. Protect from light, including direct sunrays. Keep away from heat, sparks and open flame.

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
Diethydroxylamine	3710-84-7	None Listed	None Listed
SODIUM SULFITE	7757-83-7	Not Established	Not Established
Hydroquinone	123-31-9	2 mg/m ³	1 mg/m ³
Diethylamine	109-89-7	10 ppm	5 ppm

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Monitoring: Follow accepted work practices for handling a corrosive material. When using, do not eat, drink or smoke. Do not get this material in your eyes, on your skin, or on your clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment (PPE)

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- 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, brown liquid
Odor	Fishy
pH@25°C	9.5-10.5
Melting/Freezing Point	25°F
Flashpoint	Not Flammable
Specific Gravity	1.1
Solubility	Complete
Auto-Ignition Temperature	Not known
Decomposition Temperature	Not known
VOC Content	100
Odor Threshold	Not known
Boiling Range	220°F @ 760 mm Hg
Evaporation Point	Not known
Flammable Limits - Upper	N/A
Flammable Limits - Lower	N/A
Vapor Pressure	Not known
Vapor Density (Air=1)	Not known
Viscosity	30-40 CPS

SECTION X - STABILITY AND REACTIVITY

- Stability:** Stable, under normal conditions of storage and handling.
- Conditions to Avoid:** Contact with incompatible materials.
Avoid all sources of ignition: heat, sparks and open flame.
Avoid electro-static charge.
- Hazardous Decomposition/Byproducts:** Possible thermal decomposition products: carbon oxides, nitrogen oxides.

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Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None

Incompatibilities: Strong Acids, Ammonium compounds, Reducing Agents (particularly cyanides, thiocyanates, and thiosulfates).

SECTION XI - TOXICOLOGICAL INFORMATION

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

Inhalation: Breathing spray or mists can be harmful.

Eye Contact: This material can cause significant eye irritation.

Skin Contact: Causes skin irritation.

Ingestion: May cause gastrointestinal irritaion with nausea, vomiting and diarrhea.
Harmful if swallowed.

Acute Toxicity Value: Assessment of acute toxicity: Moderate toxicity after single ingestion. Pronounced toxicity after short-term skin contact. Virtually nontoxic by inhalation. The inhalation of a highly enriched or saturated vapor-air-mixture represents an acute hazard. Oral Type of value: LD50 Species: rat Value: > 2000 mg/kg Inhalation Type of value: LC50 Species: rat Value: 114 mg/l Exposure time: 4 h Species: rat Value: (IRT) Exposure time: No Data No Mortality within the stated exposition time as shown in animal studies, however, deaths occurred after longer exposure. Dermal Type of value: LD50 Species: rabbit Value: 1300 mg/kg Literature data.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Water	Not Established	Not Established
Diethyroxylamine	Dermal Rabbit- 1.300 mg/kg- Oral Rat- 2,190 mg/kg,	Inh.Rat- 11.4 mg/l
SODIUM SULFITE	Oral rat: 2610mg/kg	Inhalation rat: >5.5 mg/l 4 hr.

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Hydroquinone	Oral - Rat - 367.3 mg/kg - Dermal - Rabbit - > 2,000 mg/kg	Not Established
Diethylamine	Oral - rat - 540 mg/kg; Dermal - rabbit - 577 mg/kg	Inhalation - rat - 4 h - 4000 ppm

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Hydroquinone

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Harmful to aquatic life.
LC50 (96 h) > 1000 mg/l, Oncorhynchus mykiss (static) The details of the toxic effect relate to the nominal concentration. The study was carried out in soft water. Literature data. Aquatic invertebrates EC50 (48 h) > 1000 mg/l, Daphnia magna (DIN 38412 Part 11, static) The details of the toxic effect relate to the nominal concentration. Literature data. Aquatic plants No Data

Mobility: Information not available.

Degradability: Expected to biodegrade.

BioAccumulation: Information not available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations.

Container disposal:
If containers are not empty, they must be disposed of in a RCRA-licensed facility. RCRA empty containers may be landfilled at a licensed facility; other containers must be disposed of in a RCRA licensed facility.

RCRA: D001

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

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

Contains: DIETHYLHYDROXYLAMINE

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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:

Component Name	CAS #	% by wt.	RQ (lbs.)	TPQ (lbs.)
Hydroquinone	123-31-9	< 1.0	100	500/10,000

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

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

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Hydroquinone	123-31-9	< 1.0

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Hydroquinone	123-31-9	< 1.0	100
Diethylamine	109-89-7	< 1.0	100

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 109-89-7 (Diethylamine)

SECTION XVI - OTHER INFORMATION

HMIS Health:..... 2

HMIS Flammability:..... 1

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.

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