



Safety Data Sheet

Issue Date: 17-Nov-2009

Revision Date: 06-Nov-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name Zurax

Other means of identification

SDS # ADAMA-044d

Registration Number(s) EPA Reg. No. 66222-160

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
1-919-256-9300

Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Tan pellets

Physical State Solid

Odor Mild characteristic

Classification

Skin sensitization

Category 1

Hazards Not Otherwise Classified (HNOC)

May be harmful if swallowed
May be harmful in contact with skin

Signal Word

Warning

Hazard Statements

Causes serious eye irritation



Precautionary Statements - Prevention

Wash hands, face, and exposed skin thoroughly after handling

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

If eye irritation persists: Get medical advice/attention

Other Hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
8-Quinolinecarboxylic acid, 3,7-dichloro-	84087-01-4	72.75-77.25
Proprietary Additive	Proprietary	<5

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

General Advice

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. If exposed or concerned: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation

Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Call a poison control center or doctor for further treatment advice.

Ingestion

Immediately call a poison center or doctor/physician. Do not induce vomiting, unless directed by medical personnel. Never give anything by mouth to an unconscious person. If conscious, give 1 glass of water to dilute.

Most important symptoms and effects

Symptoms

May cause moderate eye irritation. May cause an allergic skin reaction. May be harmful if swallowed. May be harmful in contact with skin.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**Foam. Dry chemical. Carbon dioxide (CO₂). Water spray (fog).**Unsuitable Extinguishing Media** Not determined.**Specific Hazards Arising from the Chemical**

Can burn under fire conditions.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen chloride. Halogenated hydrocarbons. Hydrocarbons.**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Avoid creating dust. Remove all sources of ignition. Ventilate affected area.

Environmental Precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Reclaim where possible. Vacuum or sweep up material and place in a disposal container. Wash area with soap and water. Pick up wash liquid with inert absorbent and place in a chemical waste container for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash face, hands, and any exposed skin thoroughly after handling. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Keep/store only in original container. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Store at ambient conditions. Do not store at temperatures above 40°C/104°F. Keep away from extreme heat or open flame. Protect from extreme temperatures. Do NOT store under wet conditions.
Incompatible Materials	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines The following information is given as general guidance

Appropriate engineering controls

Engineering Controls Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). Goggles are recommended.
Skin and Body Protection	Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear long-sleeved shirt, long pants, and shoes plus socks. Use chemical resistant gloves, such as P.V.C., butyl-rubber, nitrile-rubber, or neoprene.
Respiratory Protection	NIOSH-approved respirator or mask in the absence of adequate ventilation.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Solid	Odor	Mild characteristic
Appearance	Tan pellets	Odor Threshold	Not determined
Color	Tan		
Property	Values	Remarks • Method	
pH	4.08		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	Not applicable		
Flash Point	Not applicable		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Not determined		
Upper Flammability Limits	Not applicable		
Lower Flammability Limit	Not applicable		
Vapor Pressure	<1x10 ⁻⁷ mmHg@20°C		
Vapor Density	Not determined		
Specific Gravity	Not determined		

Water Solubility	65 ppm
Solubility in other solvents	Not determined
Partition Coefficient	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined
Bulk Density	0.5557 g/ml

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Extreme high heat/temperatures. Avoid moisture.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NOx). Hydrogen chloride. Halogenated hydrocarbons. Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Causes serious eye irritation.
Skin Contact	May be harmful in contact with skin.
Inhalation	Avoid inhalation of dust.
Ingestion	May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
8-Quinolincarboxylic acid, 3,7-dichloro- 84087-01-4	= 2190 mg/kg (Rat)	> 2 g/kg (Rat)	-
Proprietary Additive	= 2000 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause an allergic skin reaction.

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Product Information (Numerical measures of toxicity)

Acute Oral LD50 (Rat): >2,200 mg/kg

Acute Dermal LD50 (Rabbit): >2,000 mg/kg

Acute Inhalation LC50 (Rat): >6.1 mg/L (4-hr)

Eye Irritation: Moderately irritating.

Dermal Irritation: Slightly irritating.

Dermal Sensitization: Not a skin sensitizer.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects. The chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of rinsate.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Proprietary Additive		460 - 1000: 96 h Leuciscus idus mg/L LC50 static 250: 96 h Brachydanio rerio mg/L LC50 480: 96 h Brachydanio rerio mg/L LC50 flow-through 420: 96 h Brachydanio rerio mg/L LC50 semi-static 18: 96 h Cyprinus carpio mg/L LC50 100: 96 h Pimephales promelas mg/L LC50 32.2 - 41.9: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5.2 - 8.2: 96 h Oncorhynchus mykiss mg/L LC50 static 123 - 128: 96 h Poecilia reticulata mg/L LC50 semi-static 126: 96 h Poecilia reticulata mg/L LC50		423: 24 h Daphnia magna mg/L EC50 14: 48 h Daphnia magna mg/L LC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Proprietary Additive	-5.1

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u> Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

TSCA All ingredients are listed or exempt from listing on Chemical Substance Inventory

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Proprietary Additive	Proprietary	2.85-3.15	1.0

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Proprietary Additive		X	X

EPA Pesticide Registration Number 66222-160**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Signal Word: Caution

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Caution	Warning
Acute toxicity - Oral	Harmful if swallowed	May be harmful if swallowed
Acute toxicity - Dermal	N/A	May be harmful in contact with skin
Serious eye damage/eye irritation	Causes moderate eye irritation	Causes serious eye irritation

16. OTHER INFORMATION**NFPA****Health Hazards**

2

Flammability

1

Instability

1

Special Hazards

None

HMIS**Health Hazards**

2

Flammability

1

Physical Hazards

1

Personal Protection

See section 8

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Revision Note:

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet