



Safety Data Sheet

Issue Date: 15-Nov-2011

Revision Date: 03-Sept-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name

MasterCop

Other means of identification

SDS #

ADAMA-006

Registration Number(s)

EPA Reg. No. 55272-18-66222

UN/ID No

UN3082

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 Dark green suspension

Physical State Liquid

Odor Slight ammonia-like odor

Classification

Acute toxicity - Oral	Category 4
Acute toxicity – Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

Signal Word

Danger

Hazard Statements

Harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a poison center or doctor/physician

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

Immediately call a poison center or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a poison center or doctor/physician

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do not induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Copper sulfate pentahydrate	7758-99-8	20.992-22.216
Proprietary Alkaline	Proprietary	Up to 25%
Proprietary Acid	Proprietary	20-25%
Proprietary Acid	Proprietary	Up to 1%

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.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin Contact	Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Seek medical attention.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Seek immediate medical attention/advice.
Ingestion	Immediately call a poison center or doctor/physician. DO NOT induce vomiting. If conscious, drink 8-10 oz. of water promptly. Never give anything by mouth to an unconscious person. Call a poison center or doctor/physician if you feel unwell.

Most important symptoms and effects

Symptoms	Causes severe skin burns and eye damage. May cause irritation, redness and pain. May cause irritation and burns to the respiratory tract, symptoms may include coughing, sore throat, and labored breathing. Ingestion may cause nausea, vomiting and abdominal pain. May cause diarrhea.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam. Dry chemical. Water spray (fog). Carbon dioxide (CO₂). Foam or dry chemical systems are preferred to prevent environmental damage from excessive water runoff.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Can burn under fire conditions.

Hazardous Combustion Products Fire will produce irritating, corrosive and/or toxic gases. Oxides of sulfur. Oxides of copper.

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.
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.
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Methods for Clean-Up

Recover free liquid. Absorb spilled material and sweep up. Transfer contaminated absorbent, soil, and other materials to containers for disposal. Flush spill area with 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. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Wash thoroughly after handling before eating, drinking, smoking, or using toilet facilities. Do not eat, drink or smoke when using this product. Pregnant women should not work with the product, if there is the least risk of exposure.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Protect from excessive heat. Store away from incompatible materials. Protect from sunlight. Store at ambient conditions.

Packaging Materials

Do not reuse container.

Incompatible Materials

Reducing agents, metallic hydroxyl amine, water, magnesium, dusts, highly alkaline pesticides, hydroxylamine, powdered metals, fenvalerate, parathion, clorpyrifos, dicloran.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Proprietary acid	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
Copper sulfate pentahydrate 7758-99-8	TWA: 1 mg/m ³ Cu dust and mist	TWA: 1 mg/m ³ Cu dust and mist	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist
Proprietary Acid	STEL: 3 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³ (vacated) STEL: 3 mg/m ³	IDLH: 1000 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³

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**

Use chemical safety goggles and/or full-face shield where dusting is possible.

Skin and Body Protection

Wear long-sleeved shirt, long pants, and shoes plus socks. Chemical resistant gloves made of any waterproof material (except applicators driving motorized equipment) such as barrier laminate, butyl rubber, natural rubber, neoprene rubber, or nitrile rubber \geq 14 mils.

Respiratory Protection

Ensure adequate ventilation, especially in confined areas. Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, smoking and using the toilet. After work, clothes should be changed and washed before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Slight ammonia-like odor
Appearance	Dark green suspension	Odor Threshold	Not determined
Color	Dark green		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.5-5.5	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not applicable	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not applicable	
Lower Flammability Limit	Not applicable	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	1.2-1.24 g/cm ³	
Water Solubility	>20 g/L	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	>140°C (284°F)	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	None known	
Bulk Density	1.2 g/ml	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

May decompose if heated.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Contact with incompatible materials. Extremes of temperature and direct sunlight.

Incompatible Materials

Reducing agents, metallic hydroxyl amine, water, magnesium, dusts, highly alkaline pesticides, hydroxylamine, powdered metals, fenvalerate, parathion, clorpyrifos, dicloran.

Hazardous Decomposition Products

Fire will produce irritating, corrosive and/or toxic gases. Oxides of sulfur. Oxides of copper.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye Contact	Causes severe eye damage.
Skin Contact	Causes severe skin burns.
Inhalation	Harmful if inhaled.
Ingestion	Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary Alkaline	= 350 mg/kg (Rat)	-	-
Proprietary acid	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h
Copper sulfate pentahydrate 7758-99-8	= 472 mg/kg (Rat)	> 2 g/kg (Rat)	> 2.95 mg/L (Rat)
Proprietary Acid	= 1530 mg/kg (Rat)	= 2730 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h

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

Carcinogenicity Not classifiable as a human carcinogen.

Product Information (Numerical measures of toxicity)

Acute Oral LD50 (Rat): >1,030 mg/kg
Acute Dermal LD50 (Rabbit): >5,050 mg/kg
Acute Inhalation LC50 (Rat): >2.31 mg/L (4-hr)
Eye Irritation: Irritating.
Dermal Irritation: Irritating.
Dermal Sensitization: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Proprietary Alkaline		8.2: 96 h Pimephales promelas mg/L LC50		0.66: 48 h water flea mg/L EC50 0.66: 48 h Daphnia pulex mg/L EC50
Proprietary acid		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static	EC50 = 8.8 mg/L 15 min EC50 = 8.8 mg/L 25 min EC50 = 8.8 mg/L 5 min	47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static

Copper sulfate pentahydrate 7758-99-8		0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static 0.6752: 96 h Pimephales promelas mg/L LC50 static		0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static
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Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Proprietary acid	-0.31

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

Pesticide wastes are acutely hazardous. 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 at the nearest EPA Regional Office for guidance.

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Proprietary alkaline	Toxic Corrosive
Proprietary acid	Toxic Corrosive Ignitable
Copper sulfate pentahydrate 7758-99-8	Toxic
Proprietary acid	Corrosive

14. TRANSPORT INFORMATION

DOT
 Pack size less than 4.5 gallons:
 Not regulated.
 Pack size equal or more than 4.5 gallons:
UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, N.O.S. (Cupric sulfate)
Hazard Class 9
Packing Group III
Reportable Quantity (RQ) Yes

IATA
UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, N.O.S. (Cupric sulfate)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

IMDG
UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, N.O.S. (Cupric sulfate)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

15. REGULATORY INFORMATION

International Inventories

TSCA Listed

Legend:

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

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Proprietary alkaline	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Proprietary acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Copper sulfate pentahydrate 7758-99-8	10 lbs	10 lbs	10 lbs
Proprietary Acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

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 alkaline	Proprietary	Up to 25%	1.0
Copper sulfate pentahydrate - 7758-99-8	7758-99-8	20.992-22.216	1.0

CWA (Clean Water Act)

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Proprietary alkaline	1000 lb			X
Proprietary acid	5000 lb			X
Copper sulfate pentahydrate 7758-99-8 (20.992-22.216)		X		
Proprietary acid	5000 lb			X

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 alkaline	X	X	X
Proprietary acid	X	X	X
Copper sulfate pentahydrate 7758-99-8	X		X
Proprietary acid	X	X	X

EPA Pesticide Registration Number 55272-18-66222**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: Danger

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear protective eyewear such as goggles, face shield, or safety glasses. Harmful if swallowed, absorbed through skin, or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Danger	Danger
Acute toxicity - Oral	Harmful if swallowed	Harmful if swallowed
Acute toxicity - Dermal	Harmful if absorbed through the skin	May be harmful in contact with skin
Acute toxicity - Inhalation	Harmful if inhaled	Harmful if inhaled
Skin corrosion/irritation	N/A	Causes severe skin burns
Serious eye damage/eye irritation	Causes irreversible eye damage	Causes severe eye damage

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

Not determined

Not determined

Not determined

None

HMIS**Health Hazards****Flammability****Physical Hazards****Personal Protection**

Not determined

Not determined

Not determined

See section 8

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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 a 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