

Material Safety Data Sheet



Komeen

1. Product and company identification

Product name	: Komeen
EPA Registration Number	: 67690-25
Material uses	: Aquatic herbicide.
Supplier/Manufacturer	: SePRO Corporation 11550 North Meridian Street Suite 600 Carmel, IN 46032 U.S.A. Tel: 317-580-8282 Toll free: 1-800-419-7779 Fax: 317-428-4577 Monday - Friday, 8am to 5pm E.S.T. www.sepro.com
Responsible name	: Atrion Regulatory Services, Inc.
In case of emergency	: INFOTRAC - 24-hour service 1-800-535-5053

2. Hazards identification

Physical state	: Liquid.
Odor	: None
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	: DANGER! CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY CAUSE SEVERE ALLERGIC RESPIRATORY AND SKIN REACTION. HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. Harmful if swallowed. Corrosive to the eyes, skin and respiratory system. Causes burns. May cause sensitization by inhalation and skin contact. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Contains material that can cause target organ damage. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects	
Inhalation	: Corrosive to the respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: Toxic if swallowed. May cause burns to mouth, throat and stomach.
Skin	: Corrosive to the skin. Causes burns. May cause sensitization by skin contact.
Eyes	: Corrosive to eyes. Causes burns.
Potential chronic health effects	
Chronic effects	: Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: Contains material which causes damage to the following organs: kidneys, liver, upper respiratory tract, skin, eye, lens or cornea.
Over-exposure signs/symptoms	

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Ingestion** : Adverse symptoms may include the following:
stomach pains
- Skin** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Eyes** : Adverse symptoms may include the following:
pain
watering
redness
- Medical conditions aggravated by over-exposure** : Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3 . Composition/information on ingredients

United States			
Name	CAS number	%	
Active ingredient: Copper sulphate pentahydrate	7758-98-7	30 - 60	
Inert ingredient: Proprietary Amine	Proprietary	10 - 30	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention immediately.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

- Flammability of the product** : May be combustible at high temperature.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 metal oxide/oxides
 Decomposes above 200°C.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : May be harmful to the environment if released in large quantities.
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

	United States
Product name	Exposure limits
Copper sulphate pentahydrate	ACGIH TLV (United States). TWA: 1 mg/m ³ 8 hour(s). Form: Copper dust.
	OSHA PEL (United States). TWA: 1 mg/m ³ 8 hour(s). Form: Copper dust.
Proprietary Amine	ACGIH TLV (United States, 1/2008). Absorbed through skin. TWA: 25 mg/m ³ 8 hour(s). TWA: 10 ppm 8 hour(s).
	NIOSH REL (United States, 12/2001). TWA: 25 mg/m ³ 10 hour(s). TWA: 10 ppm 10 hour(s).

OSHA PEL (United States, 11/2006).TWA: 25 mg/m³ 8 hour(s).

TWA: 10 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Applicators should refer to the product label for personal protective clothing and equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Splash goggles.

Skin : Lab coat.

Respiratory : Vapor respirator.

Hands : Rubber gloves.

Personal protective equipment (Pictograms)

HMIS Code/Personal protective equipment : G

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	: Liquid.
Color	: Purple. [Dark]
Odor	: None
pH	: 9.62
Relative density	: 1.22 g/cm ³ (20°C).
Vapor pressure	: No appreciable vapor pressure. Open containers can lose small amounts of water by volatilization.
Solubility	: Soluble in water and alcohols.

10 . Stability and reactivity

Stability	: The product is stable.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: Avoid exposure - obtain special instructions before use.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials and acids. (Specific materials to avoid) Do not use where water is below 6. Copper chelate may dissociate and release copper ions which could subsequently be precipitated as insoluble copper salts. Should not be applied when water temperature is below 60°F.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Flammable in the presence of the following materials or conditions: heat.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
Copper sulphate pentahydrate	Rat	20 mg/kg	LD50 Intraperitoneal	-
	Rat	48900 ug/kg	LD50 Intravenous	-
	Rat - Female	300 mg/kg	LD50 Oral	-
	Rat	960 mg/kg	LD50 Oral	-
	Proprietary Amine	Rabbit	730 uL/kg	LD50 Dermal
	Rat	1200 mg/kg	LD50 Oral	-

Inhalation : Corrosive to the respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Toxic if swallowed. May cause burns to mouth, throat and stomach.

Skin : Corrosive to the skin. Causes burns. May cause sensitization by skin contact.

Eyes : Corrosive to eyes. Causes burns.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Proprietary Amine	A4	-	-	-	-	-

12 . Ecological information

Environmental effects : May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Test	Species	Exposure	Result
Proprietary Amine	-	Fish	96 hours	Acute LC50 115700 to 131600 ug/L
	-	Daphnia	48 hours	Acute LC50 26500 to 34400 ug/L

13 . Disposal considerations


Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal spilled material and runoff and contact with soil, waterways, drains and sewers.

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

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

AERG : 151

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3010	COPPER BASED PESTICIDES, LIQUID, TOXIC	6.1	III		

IMDG Class	UN3010	COPPER BASED PESTICIDES, LIQUID, TOXIC	6.1	III		
IATA-DGR Class	UN3010	COPPER BASED PESTICIDES, LIQUID, TOXIC	6.1	III		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Toxic material
Corrosive material
Sensitizing material
Carcinogen
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances : Proprietary Amine
SARA 302/304 emergency planning and notification : Proprietary Amine
SARA 302/304/311/312 hazardous chemicals : Copper sulphate pentahydrate; Proprietary Amine
SARA 311/312 MSDS distribution - chemical inventory - hazard identification : Copper sulphate pentahydrate: Immediate (acute) health hazard, Delayed (chronic) health hazard; Proprietary Amine: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: Copper sulphate pentahydrate
Clean Water Act (CWA) 311: Copper sulphate pentahydrate; Proprietary Amine; Proprietary Acid
Clean Air Act (CAA) 112 accidental release prevention : Proprietary Amine
Clean Air Act (CAA) 112 regulated flammable substances : No products were found.
Clean Air Act (CAA) 112 regulated toxic substances : Proprietary Amine

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	: Copper sulphate pentahydrate	7758-98-7	30 - 60
Supplier notification	: Copper sulphate pentahydrate	7758-98-7	30 - 60

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: Copper sulphate pentahydrate; Proprietary Amine
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: Copper sulphate pentahydrate; Proprietary Amine; Proprietary Acid
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: The following components are listed: Copper sulphate pentahydrate; Proprietary Amine; Proprietary Acid
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: Copper sulphate pentahydrate; Proprietary Amine; Proprietary Acid
Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Sulfuric acid	Yes.	No.	No.	No.

International regulations

International lists : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Label requirements : **CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY CAUSE SEVERE ALLERGIC RESPIRATORY AND SKIN REACTION. HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.**

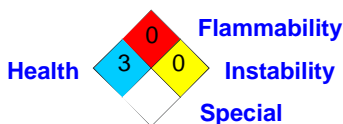
Hazardous Material Information System (U.S.A.) : **HAZARD RATINGS**

Health	*	3
Fire hazard		0
Physical Hazard		0
Personal protection		G

4- Extreme
 3- Serious
 2- Moderate
 1- Slight
 0- Minimal
 See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

Date of issue : 03/15/2009

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The data in this MSDS relates only to the specific material designated herein. Possible adverse effects (see Section 2, 11 and 12) may occur if this material is not handled in the recommended manner.

**This page has
been
intentionally left
blank**