

Safety Data Sheet

Section 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: **EMSAN**
Synonym: Quaternary Ammonium Compound
Product Item No.: 100

1.2 Recommended use of the product and restrictions on use

Uses: Sanitizer
Restrictions: Do not mix with strong acids, or oxidizers
Product dilution: Product is able to be diluted

1.3 Details of the supplier of the safety data sheet

Company: Emtech Laboratories, Inc.
580 S. Cemetery Street
Norcross, Georgia 30071
Telephone: 877-753-3271
Fax Phone Number: 888-294-7060

1.4 Emergency telephone number

Emergency Phone Number: 678-534-8007

Section 2. Hazards Identification

2.1 Classification of the substance or mixture:

Health hazards

Acute toxicity, Oral (Category 3)
Skin corrosion/irritation (Category 1B)
Respiratory sensitization, (Category 1)
Serious eye damage/eye irritation (Category 1)

Environmental hazards

Hazardous to the aquatic environment, acute hazard (Category 1)
Hazardous to the aquatic environment, long term hazard (Category 1)

2.2 GHS Label elements

Pictogram(s)



Signal Word: Danger

Hazard statement(s):

- H301: Toxic if swallowed.
 H314: Causes severe skin burns and eye damage.
 H318: Causes serious eye damage.

Precautionary statement - Prevention

- P260: Do not breathe mist or vapor.
 P264: Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement - Response

- P301 + P310+: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
 P330 + P331 vomiting.
 P303 + P361+: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P353
 P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305 + P351+: 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. Wash contaminated clothing before reuse.
 P338 + P310+
 P363

Precautionary Statements – Storage

- P403 + P235 +: Store in a well-ventilated place. Keep cool. P410 + P412: Store in a well-ventilated place. Keep cool.
 P405 Store locked up.

Precautionary Statements - Disposal

- P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS:

Supplemental information 0.5% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

Section 3. Composition / Information on Ingredients

Substance/ Mixture: Mixture

Hazardous Ingredients	Concentration Range (%)	CAS number
Alkyl dimethyl benzyl ammonium chloride (C12-C16)	3	68424-85-1
Octyl decyl dimethyl ammonium chloride	2.3	32426-11-2
Diocetyl dimethyl ammonium chloride	1.1	5538-94-3
Didecyl dimethyl ammonium chloride	1.1	7173-51-5
Ethanol	<1.0	64-17-5

Balance of other ingredients is non-hazardous or less than 0.1%. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 4. First Aid Measures

4.1 Description of first aid measures**General**

Consult a physician. Show this safety data sheet to the doctor in attendance.
 Move out of dangerous area.

Eye

Immediately flush eyes with water for 15-20 minutes, while holding eyelids open.
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Seek medical attention at once.

Skin

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation

If breathed in, move person into fresh air. Consult a physician if breathing difficulty persists.

Ingestion

Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

4.2 Most important symptoms and effects, both acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

Section 5. Fire-Fighting Measures

5.1 Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:

Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

Wear full protective clothing (chemical splash suit) and positive pressure self-contained breathing apparatus, MSHA/NIOSH approved or equivalent.

5.4 Further information

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**National Fire
Protection**

Association (NFPA)

0 = None 4 = Extreme Hazard

Health:	3
Fire Hazard:	1
Reactivity:	0

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection see section 8 of the SDS.

6.2 Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.

6.3 Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.4 Reference to other sections

See section 8 to personal protective protection and section 13 to waste treatment.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For precautions see section 2.2.

7.2 Conditions for safe storage, including and incompatibilities

Keep containers tightly closed in a cool, dry, well-ventilated area away from sunlight, and heat. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Incompatibility - Strong oxidizing agents (may result in fire) and reducing agents.

7.3 Specific end use(s)

Apart from the uses referenced in section 1.2 no other specific uses are stipulated

Section 8. Exposure Controls / Personal Protection

8.1 Control parameters**Ingredients with workplace control parameters****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	CAS-No.	Type	Value
Ethanol	64-17-5	PEL	1900 mg/m ³ 1000 ppm

US. ACGIH Threshold Limit Values**Components**

Ethanol	64-17-5	STEL	1000 ppm
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US. NIOSH: Pocket Guide to Chemical Hazards**Components Type Value**

Ethanol	64-17-5	TWA	1900 mg/m ³ 1000 ppm
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TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

WEEL - Workplace Environmental Exposure Levels

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

8.2 Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Personal protective equipment**General Information**

Provide eyewash, safety shower and washing facilities.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures

Do not smoke while handling/using product. Handle in accordance with good industrial hygiene and safety practice. Always wash hands before smoking, eating, drinking or using the toilet. Wash hands before breaks and at the end of workday. Wash contaminated clothing and other protective equipment before storage or re-use.

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form:	Liquid
	Color:	Red
b) Odor		Slight, characteristic odor
c) Odor Threshold		no data available
d) pH		6-9 Typical
e) Melting point/freezing point		no data available
f) Initial boiling point and boiling range		212°F (100°C)
g) Flash point closed cup		>200°F (>93.33°F)
h) Evaporation rate		no data available
i) Flammability (solid, gas)		no data available
j) Upper/lower flammability or explosive limits		no data available
k) Vapor pressure		no data available
l) Vapor density		no data available
m) Relative density		0.995 g/ml at 25 °C (77 °F)
n) Water solubility		soluble
o) Partition coefficient: n-octanol/water		no data available
p) Auto-ignition temperature		no data available
q) Decomposition temperature		no data available
r) Viscosity		no data available
s) Explosive properties		no data available
t) Oxidizing properties		no data available

9.2 Other information

VOC (Volatile Organic Compounds)	no data available
Molecular Weight	Mixture
Bulk Density	no data available

Section 10. Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

In the event of fire, decomposition products may include the following materials: carbon dioxide, and carbon monoxide, and toxic hydrogen chloride vapors.

Section 11. Toxicological Information

11.1 Likely Routes of exposure

Likely routes of exposure include: inhalation, eye and skin contact.

11.2 Signs and symptoms of exposure

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

11.3 Delayed and immediate effects/Chronic effects from short- and long-term exposure**Eye**

Causes serious eye damage

Skin

Causes serious skin burns

Inhalation

May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Ingestion

Toxic if swallowed. Causes digestive tract burns.

Chronic effects

No information available.

Respiratory or skin sensitization

Not a respiratory sensitizer. This product is not expected to cause skin sensitization.

Germ cell mutagenicity

No information available.

Reproductive toxicity

No information available.

Specific target organ toxicity-single exposure

No information available.

Specific target organ toxicity-repeated exposure

No information available.

Aspiration hazard

No information available.

Additional Information

RTECS (Registry of Toxic Effects of Chemical Substances): None

11.4 Information on toxicological effects**Acute toxicity**

Component	LD50-Oral	LD50-Dermal
Octyl decyl dimethyl ammonium chloride (CAS 32426-11-2)	238 mg/kg	3342 mg/kg
Diocetyl dimethyl ammonium chloride (CAS 5538-94-3)	238 mg/kg	3342 mg/kg

Acute toxicity Component	LD50-Oral	LD50-Dermal
Didecyl dimethyl ammonium chloride (CAS 7173-51-5)	238 mg/kg 329 mg/kg Rat	3342 mg/kg > 1000 mg/kg Rat
Ethanol (CAS 64-17-5)	10470 mg/kg Rat	LC50-Vapor 117 – 125 mg/l, 4h
Alkyl dimethyl benzyl ammonium chloride (C12-C16) (CAS 68424-85-1)	430 mg/kg	3560 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation

Skin- Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Eyes- Causes serious eye damage.

11.5 Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC (International Agency for Research on Cancer): No component of this product is present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH (American Conference of Governmental Industrial Hygienists): No component of this product is present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP (National Toxicology Program): No component of this product is present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA (Occupational Safety and Health Administration): No component of this product is present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

12.1 Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Octyl decyl dimethyl ammonium chloride (CAS 32426-11-2)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	0.032 mg/l, 96 h
<i>Chronic</i>			
Crustacea	NOEC	Daphnia	0.01 mg/l
Dioctyl dimethyl ammonium chloride (CAS 5538-94-3)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	0.032 mg/l, 96 h
<i>Chronic</i>			
Crustacea	NOEC	Daphnia	0.01 mg/l

Components		Species	Test Results
Didecyl dimethyl ammonium Chloride (CAS 7173-51-5)			
Aquatic			
Algae	EC50	Algae	0.062 mg/l, 72 h
Crustacea	LC50	Daphnia	0.057 mg/l, 48 h
	NOEC	Daphnia	0.021 mg/l, 21 d
Fish	LC50	Danio rerio	0.97 mg/l, 96 h
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	0.032 mg/l, 96 h
<i>Chronic</i>			
Crustacea	NOEC	Daphnia	0.01 mg/l
Ethanol (CAS 64-17-5)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	675 mg/l, 72 h
Crustacea	EC50	Daphnia	5012 mg/l, 48 h
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	14200 mg/l, 96 h
<i>Chronic</i>			
Crustacea	NOEC	Daphnia	9.6 mg/l, 9 d
Alkyl dimethyl benzyl ammonium chloride (C12-C16) (CAS 68424-85-1)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	0.515 mg/l

* Estimates for product may be based on additional component data not shown.

12.2 Persistence and degradability

The organic components of the product are biodegradable.

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Other adverse effects

No Known effect.

Section 13. Disposal Considerations

13.1 Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or reconstitute 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.

13.2 Local disposal regulations

Dispose in accordance with all applicable regulations.

13.3 Hazardous waste code

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

13.4 Waste from 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).

13.5 Contaminated packaging

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

Section 14. Transportation Information
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Land Transport (DOT)

14.1 UN number	UN1903
14.2 Proper Shipping Name:	Disinfectants, Liquid Corrosive, N.O.S. (Quaternary Ammonium Compound)
14.3 Transport Hazard Class:	8
14.4 Packing Group	II
14.5 Special Precautions for the user	Read safety instructions, SDS and emergency procedures before handling.
49 CFR §173.154 (Exemption)	This product can ship as a "Consumer Commodity" and re-classed as "ORM-D" if packaged in <1.3 gallons (5 Liter) containers. (Non-Hazardous)

IATA (International Air Transport Association): No data

IMDG (International Maritime Dangerous Goods Code): No data

Section 15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethanol (CAS 64-17-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - No
	Fire Hazard - Yes
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

FIFRA Information

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. Listed below is the hazard information as required on the pesticide label.

Signal word

DANGER

KEEP OUT OF REACH OF CHILDREN

Hazard statement

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if inhaled, swallowed or absorbed through the skin.

US State regulations**US. Massachusetts RTK - Substance List**

Ethanol (CAS 64-17-5)

US. New Jersey Worker and Community Right-to-Know Act

Ethanol (CAS 64-17-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethanol (CAS 64-17-5)

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

**Hazardous Material
Information System
(HMIS)**

Health: 3
Fire Hazard: 1
Reactivity: 0

0 = None 4 = Extreme

**Personal Protective
Equipment**

**B – Safety
Safety Glasses, Gloves**

SDS Issuing date: 07/19/2017

Version #: 01

The information above includes data compiled from Safety Data Sheets from manufactures' of each component of this product. Emtech Laboratories, Inc. believes the data contained herein are accurate. The data are not to be taken as warranty or representation for which Emtech Laboratories, Inc. assumes legal responsibility. They are offered solely for your consideration, investigation and verification. Any use of these data and information must be in accordance with applicable Federal, State and local laws and regulations.