

## Safety Data Sheet

PRODUCT CODE: **KMA008A**

Effective Date: December-2023

Version: 3.0

### **1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

Identification of the substance or preparation:

**Non-acid Intensifier: KMA008A**

Company/undertaking identification:

OPT Chemicals Saudi Factory and Co.  
Dammam 2nd Industrial City, 6th Street, 101 Intersection,  
Postal code 34334, Kingdom of Saudi Arabia.  
+966 56 917 2181

Emergency phone:

### **2. HAZARDS IDENTIFICATION**

Main environmental hazards:

Not available

Main physical hazards:

Special precautions:

Explosive with dry bromates. Forms HF if wet.

Physical hazard:

Dust

Main health hazards:

Causes severe eye and skin burns. Causes burns to mouth, throat, and stomach if swallow.

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substance</b>	<b>Conc. [wt.%]</b>	<b>CAS#</b>
Ammonium Hydrogen Difluoride	90-100	1341-49-7

### **4. FIRST AID MEASURES**

Eye contact:

Immediately flush eyes with plenty of water for 30 minutes while holding eyelids open. Seek medical attention immediately.

Skin contact:

Remove contaminated clothes and shoes. Wash thoroughly with soap and water for 30 minutes. Seek medical attention at once.

Inhalation:

Remove to fresh air. Seek medical attention at once.

Swallowing:

Do not induce vomiting. If several grams are swallowed, give large quantity of milk with magnesia seek medical attention at once.

Note:

Exposure to HF requires specialty medical treatment.

Notes:

None

### **5. FIRE-FIGHTING MEASURES**

Extinguishing media:

CO<sub>2</sub>, dry chemical, foam.

Further information:

Wear firefighting clothing and avoid breathing vapors. Use SCBA in closed areas.

NFPA Rating:

Health 3; Flammability 3; Reactivity 0; Other: None.

Combustion products:

see Section 10.

### **6. ACCIDENTAL RELEASE MEASURES**

After spillage/leakage:

Scoop into containers. Flush residual with plenty of water.

See Section 8 for protective equipment information.

See Section 13 for disposal information.

### **7. HANDLING AND STORAGE**

Special precautions:

Keep material dry. Do not transport or store with and avoid contact with dry bromates.

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Packaging requirements:	Bag with moisture barrier.
Ventilation:	Provide ventilation to keep airborne concentrations below exposure limits.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Respiratory protection:	Use respirator with dust and mist protection (white P2).
Eye protection:	Chemical splash goggles. Face shields.
Hand protection:	Impervious gloves made of rubber.
Skin protection:	Chemical resistant clothing and boots.
Exposure limit guidelines (mg/m <sup>3</sup> ):	No components have established exposure limits.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Form:	Crystals
Color:	White
Odor:	Pungent
pH value:	2.0-2.5 (0.5 wt.% water solution)
Boiling point:	239°C
Pour point:	126°C
Flash point:	Not combustible
Flammability (explosion limits in air):	
Lower:	Not applicable
Upper:	Not applicable
Vapor pressure:	N/A
Relative density (specific gravity):	1.40-1.60
Bulk density (solids):	750 kg/m <sup>3</sup>
Solubility in water:	630 g/L (20°C)
Viscosity:	Not applicable
Relative vapor density (air=1):	Not applicable
% Volatile:	<5

## **10. STABILITY AND REACTIVITY**

Stability:	Stable
Conditions to avoid:	Unknown
Materials to avoid:	Oxidizer sand dry bromates.
Hazardous polymerization:	Will not occur.
Dust explosion hazard (solids):	Not applicable
Special hazards:	Explosive with dry bromates, form HF when wet.
Hazardous decomposition products:	Ammonia, nitrogen oxides, oxygen fluoride, hydrogen fluoride.

## **11. TOXICOLOGICAL INFORMATION**

Eye contact:	Corrosive. Rapidly causes pain burns and injury. May cause permanent damage or blindness.
Skin contact:	Corrosive; rapidly cause pain, redness, swelling and damage to tissue.
Inhalation:	Severe irritant; may cause pain, choking and coughing.
Ingestion:	Toxic; can cause illness or death, causes pain and burns to mouth, throat and stomach. LD50 = 100-200 mg/kg.
Carcinogenicity:	Not listed by IARC, USA NTP, or USA OSHA.
Mutagenicity:	Not known to cause heritable genetic damage.
Teratogenicity:	Not known to cause birth defects.
Target organs which may be affected:	None known

Sensitization: Not known to cause allergic reaction.  
Other: May affect bones and joints.

## **12. ECOLOGICAL INFORMATION**

Information on product as a whole:  
Main environmental hazards: Not known  
Degradability: Partially biodegradable  
Other: None known

## **13. DISPOSAL CONSIDERATIONS**

Product: Dispose of by incineration (preferred) or other acceptable method in accordance with local regulations.  
Container: Sell drum to an approved drum re-conditioner or crush, and ship to sanitary landfill unless prohibited by local regulations.

## **14. TRANSPORT INFORMATION**

UN Number: 1727  
IMO Description: NH4HF2  
Class: 8  
Package Group: II  
Label: Corrosive 8  
EMS: 8-06  
MFAG: 750  
IATA Description: NH4HF2  
Class: 8  
Sub Risk:  
Package Group: II  
Label: Corrosive 8  
ADR Description: NH4HF2  
ADR class/item: 8, 9b  
ADR Danger ID: 80  
ADR Label: 80G11

## **15. REGULATORY INFORMATION**

Symbols:



Toxic



Corrosive

Risks: R25 - Toxic if swallow.  
R34 - Causes burns  
Safety advice: S22 - Do not breath dust.  
S26 - In case of contact with eyes, rinse with plenty of water and seek for medical attention at once.  
S37 - Wear suitable gloves  
S45 in case of accident, seek medical attention immediately.

Notification/restrictions status:

EUROPEAN UNION (EU):

All components of this material are on the EINECS inventory, or the components are exempt from inventory reporting.

NORWAY:

Not determined.

USA:

All components of this material are on the USA TSCA inventory, or the components are exempt from inventory reporting.

## **16. OTHER INFORMATION**



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\*\*\* END OF SDS\*\*\*

## Safety Data Sheet

PRODUCT CODE: **KMA018**

Effective Date: December-2023

Version: 2.0

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation:

**Chelating Agent: KMA018**

Company/undertaking identification:

OPT Chemicals Saudi Factory and Co.  
Dammam 2<sup>nd</sup> Industrial City, 6<sup>th</sup> Street, 101 Intersection,  
Postal code 34334, Kingdom of Saudi Arabia.  
+966 56 917 2181

Emergency phone:

### 2. HAZARDS IDENTIFICATION

Physical Hazards:

Not classified

Health Hazards:

Skin corrosion/irritation:

Category 2

Serious eye damage/eye irritation:

Category 2A

Hazard symbol:



Signal word:

Warning

Hazard statement:

Causes skin irritation. Causes serious eye irritation.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Conc. [wt.%]	CAS#
Salt of Carboxylic Acid	20-30	
Sodium Chloride	10-20	7440-23-5
Water	40-60	7732-18-5

### 4. FIRST AID MEASURES

Eye contact:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

Skin contact:

Wash thoroughly with soap and water. If symptoms persist, seek medical advice.

Inhalation:

Keep patient calm, remove to fresh air, seek medical attention.

Swallowing:

Get medical advice/attention if you feel unwell. Rinse mouth.

Protection of first-aiders:

A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

### 5. FIRE-FIGHTING MEASURES

Extinguishing media:

Water spray, dry powder, foam.

Hazards during fire-fighting:

Harmful vapours, nitrogen oxides, carbon oxides. Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Contaminated extinguishing water must be disposed of in accordance with official regulations.

NFPA rating:

Health 2 Flammability 1 Reactivity 0 Other: None

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Environmental precautions:

Methods and materials for containment and cleaning up:

Use personal protective clothing. Information regarding personal protective measures see, section 8.

Do not discharge into drains/surface waters/groundwater.

For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with regulations.

For large amounts: Pump off product. Spills should be contained, solidified, and placed in suitable containers for disposal.

## **7. HANDLING AND STORAGE**

Special precautions:

No special measures necessary provided product is used correctly. Protection against fire and explosion. No special precautions necessary.

Storage conditions:

Store at ambient temperature. Keep container tightly closed.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

Eye protection:

Tightly fitting safety goggles (chemical goggles) and face shield.

Hand protection:

Chemical resistant protective gloves.

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:

Wearing of closed work clothing is required additionally to the stated personal protection equipment. No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Form:

Liquid

Color:

Colorless to light yellow

Odor:

Pungent

pH value:

3.5-4.5

Boiling point:

>100°C (1013 hPa)

Pour point:

Not available

Flash point:

100°C

Flammability (explosion limits in air):

The product is not flammable or explosive.

Lower:

For liquids not relevant for classification and labelling.

Upper:

For liquids not relevant for classification and labelling.

Auto-flammability (auto-ignition temperature):

Based on the water content the product does not ignite.

Vapor pressure:

17.5 mmHg (20°C)

Relative density (specific gravity):

1.24-1.28

Solubility in water:

Soluble 20°C

Viscosity:

Not available

Relative vapor density (air=1):

Not determined

Evaporation rate:

Value can be approximated from Henry's Law Constant or vapor pressure.

## **10. STABILITY AND REACTIVITY**

Stability:

The product is stable if stored and handled as prescribed/indicated.

Reactivity:

No hazardous reactions if stored and handled as

Conditions to avoid:	prescribed/indicated. corrosive effect on aluminium. not fire-propagating.
Materials to avoid:	See MSDS section 7 - Handling and storage.
Possibility of hazardous reactions:	Oxidizing agents, water reactive substances, strong acids, metal powder.
Hazardous decomposition products:	The product is chemically stable. Reacts with aluminum, with evolution of hydrogen.
Thermal decomposition:	No hazardous decomposition products if stored and handled as prescribed/indicated.

## **11. TOXICOLOGICAL INFORMATION**

Typical contact	No data available
Eye contact:	No data available
Skin contact:	No data available
Inhalation:	No data available
Ingestion:	No data available
Mutagenicity:	No data available
Teratogenicity:	No data available
Target organs which may be affected:	No data available
Sensitization:	No data available
Other:	No data available

## **12. ECOLOGICAL INFORMATION**

Information on product as a whole:	
Assessment of aquatic toxicity:	There is a high probability that the product is not acutely harmful to aquatic organisms.
Toxicity to microorganisms:	Activated sludge of a predominantly domestic sewage/EC50: > 500 mg/l.
Assessment biodegradation and elimination (H <sub>2</sub> O):	Not readily biodegradable (by OECD criteria). Under enhanced conditions Biodegradable.
Assessment bioaccumulation potential:	Accumulation in organisms is not to be expected.
Assessment transport between environmental compartments:	The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

## **13. DISPOSAL CONSIDERATIONS**

Product:	Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.
Container disposal:	Dispose of in accordance with national, state and local regulations.

## **14. TRANSPORT INFORMATION**

Land transport (TDG):	Not classified as a dangerous good under transport regulations.
Sea transport (IMDG):	Not classified as a dangerous good under transport regulations.
Air transport (IATA/ICAO):	Not classified as a dangerous good under transport regulations.

## **15. REGULATORY INFORMATION**

International Chemical Inventories:

Inventory - United States TSCA - Canada DSL  
Inventory List - EC-No China inventory of  
existing chemical substances list - Inventory -  
Japan - Existing and New Chemicals list -  
Australia (AICS):

U.S.A. Regulations:

OSHA Hazard Communication Standard:

This product complies with TSCA requirements.

This product complies with DSL requirements.

This product complies with EINECS/ELINCS requirements.

This product complies with China inventory requirements.

This product does not comply with JPENCS.

All the constituents of this material are listed on the Australian  
Inventory of Chemical Substances (AICS).

Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z  
400.1.

## **16. OTHER INFORMATION**

### **DISCLAIMER:**

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\*\*\* END OF SDS\*\*\*

## Safety Data Sheet

PRODUCT CODE: **KMA031**

Effective Date: December-2023

Version: 2.0

### **1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

Identification of the substance or preparation:

**High Temperature Inhibitor Aid: KMA031**

Company/undertaking identification:

OPT Chemicals Saudi Factory and Co.

Dammam 2<sup>nd</sup> Industrial City, 6<sup>th</sup> Street, 101 Intersection,  
Postal code 34334, Kingdom of Saudi Arabia.

Emergency phone:

Tel: +966 56 917 2181

### **2. HAZARDS IDENTIFICATION**

Main health hazards:

May be mildly irritating to eyes. Harmful if swallowed.

Main environmental hazards:

None known

Main physical hazards:

Special precautions:

None

Physical hazard:

None

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substance</b>	<b>Conc. [wt.%]</b>	<b>CAS #</b>
Potassium Salt	90-100	-

### **4. FIRST AID MEASURES**

Eye contact:

Immediately flush eyes with water for 15 minutes. Holding eyelids open. Seek medical attention.

Skin contact:

Rinse with water.

Inhalation:

Remove to fresh air.

Swallowing:

If several grams are swallowed, immediate medical attention is required. If delayed, consider inducing vomiting with ipecac or other means. Give milk or water after vomiting.

### **5. FIRE-FIGHTING MEASURES**

Extinguishing media:

None needed

Further Information:

None known

NFPA Rating:

Health 3 Flammability 0 Reactivity 0 Other: None

Combustion products:

See Section 10.

### **6. ACCIDENTAL RELEASE MEASURES**

After spillage/leakage:

Scoop into containers. Flush residual with plenty of water.

See Section 8 for protective equipment information.

See Section 13 for disposal information.

### **7. HANDLING AND STORAGE**

Special precautions:

No special precautions requisite.

Packaging requirements:

Paper bags (minimum 3 ply), or other industrial containers designed for powders and granulated materials.

Ventilation:

Provide ventilation to keep airborne concentrations below exposure limits.

### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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Respiratory protection:	None normally needed.
Eye protection:	Chemical splash goggles.
Hand protection:	Impervious gloves made of Neoprene.
Skin protection:	Clean, body-covering clothing.
Exposure Limit Guidelines (mg/m <sup>3</sup> ):	No components have established exposure limits.
Dust particles:	total = 10 mg/m <sup>3</sup> , respirable fraction = 5 mg/m <sup>3</sup> .

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Form:	Crystals
Color:	Colorless to white
Odor:	None
pH value:	7.0-8.0 (1.0 wt.% water solution)
Boiling point:	1420°C
Pour point:	686°C
Flash point:	Not combustible
Method:	Not applicable
Flammability (explosion limits in air):	
Lower:	Not applicable
Upper:	Not applicable
Auto flammability (auto-ignition temperature):	Not applicable
Vapor pressure:	0.13 kPa (745°C)
Relative density (specific gravity):	2.55-2.75
Bulk Density (solids):	1550 kg/m <sup>3</sup>
Solubility in water:	1400 g/L
Viscosity:	Not applicable
Relative Vapor Density (air=1):	>1
% Volatile:	0

## **10. STABILITY AND REACTIVITY**

Stability:	Stable
Conditions to avoid:	Not determined
Materials to avoid:	Oxidizers
Hazardous Polymerization:	Will not occur
Dust explosion hazard (solids):	Not applicable
Special hazards:	None
Hazardous decomposition products:	None

## **11. TOXICOLOGICAL INFORMATION**

Eye contact:	Mildly irritating
Skin contact:	No effect expected
Inhalation:	No effect expected
Ingestion:	Harmful if swallowed; large amounts may cause illness. LD50 (rat) = 1000 mg/kg.
Carcinogenicity:	Not listed by IARC, USA NTP, or USA OSHA.
Mutagenicity:	Not known to cause heritable genetic damage.
Teratogenicity:	Not known to cause birth defects.
Target organs which may be affected:	Reproductive
Sensitization:	Not known to cause allergic reactions.
Other.	None

## **12. ECOLOGICAL INFORMATION**

Information on product as a whole:

Main environmental hazards:	None known
Degradability:	Not applicable
Other:	None known

### **13. DISPOSAL CONSIDERATIONS**

Product:	Dispose of by landfilling or other acceptable method in accordance with local regulations.
Container:	Send empty bags to sanitary landfill. Render other types of containers unusable by puncturing or crushing and sanitary landfill unless prohibited by local regulations.

### **14. TRANSPORT INFORMATION**

UN Number:	None
IMO Description:	Not regulated
Class:	
Package Group:	
Label:	
EMS:	
MFAG:	
IATA Description:	Not regulated
Class:	
Sub Risk:	
Package Group:	
Label:	
ADR Description:	Not regulated
ADR class/item:	
ADR Danger ID:	
TREM Card:	
ADR Label:	

### **15. REGULATORY INFORMATION**

Symbols:	
Risks:	Evaluated as not required to be labelled.
Safety advice:	Exercise reasonable care and cleanliness.
Notification/restrictions status:	
EUROPEAN UNION (EU):	All components of this material are on the EINECS inventory, or the components are exempt from inventory reporting.
NORWAY:	Not determined.
USA:	All components of this material are on the USA TSCA inventory, or the components are exempt from inventory reporting.

### **16. OTHER INFORMATION**

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\*\*\* END OF SDS\*\*\*

## Safety Data Sheet

PRODUCT CODE: **KMA044**

Effective Date: December-2023

Version: 1.0

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation:

**Corrosion Inhibitor: KMA044**

Company/undertaking identification:

OPT Chemicals Saudi Factory and Co.  
Dammam 2nd Industrial City, 6th Street, 101 Intersection,  
Postal code 34334, Kingdom of Saudi Arabia.  
+966 56 917 2181

Emergency phone:

### 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Acute Toxicity, Category 4:

H302 - Harmful if swallowed.

Acute Toxicity, Category 5:

H333 - May be harmful if inhaled.

Skin corrosion, Category 1A:

H314 - Causes severe skin burns and eye damage.

Serious eye damage, Category 1:

H318 - Causes serious eye damage.

Specific target organ toxicity –single exposure Category 3:

H335 - May cause respiratory irritation. (Respiratory system)

Specific target organ toxicity –single exposure Category 2:

May cause damage to organs through prolonged or repeated exposure if swallowed. (Kidney, Oral system)

GHS Classification and Labeling:

Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)

Hazardous products which must be listed on the label:

Ammonium Quaternary Compound.

Surfactant

Water

Ethylene glycol

Hazard Pictograms:



Signal Word:

Danger

Hazard Statements:

General:

None

Prevention:

P210-Keep away from heat/sparks/open flames/hot surfaces.  
No smoking

P260-Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264-Wash skin thoroughly after handling.

P270-Do not eat, drink or smoke when using this product.

P271-Use only outdoors or in a well-ventilated area.

P272-Contaminated work clothing should not be allowed out of the workplace.

P273-Avoid release to the environment.

P280-Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER / doctor.

Storage:	<p>P305 + P351 + P338 + P310 - 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 / doctor.</p> <p>P314 - Get medical advice/ attention if you feel unwell.</p> <p>P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P362 + P364 - Take off contaminated clothing and wash it before reuse.</p> <p>P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.</p> <p>P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403 + P235 - Store in a well-ventilated place. Keep cool.</p> <p>P391 - Collect spillage.</p>
Disposal:	<p>P501 - Dispose of contents/ container to an approved waste disposal plant.</p>

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substance</b>	<b>Conc. [wt.%]</b>	<b>CAS #</b>
Ammonium Quaternary Compound	10-20	Proprietary
Surfactant	10-15	Proprietary
Water	50-60	7732-18-5
Ethylene Glycol	10-15	107-21-1

### **4. FIRST AID MEASURES**

Eye contact:	Rinse with running water whilst keeping the eyes wide open (at least 15 minutes). Get immediate medical advice/ attention.
Skin contact:	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation:	Move to fresh air. Keep at rest. Consult a physician if necessary. Consult a physician after significant exposure.
Swallowing:	Do NOT induce vomiting. Do not give anything to drink. Keep at rest. Consult a physician if necessary. If a large amount is swallowed, get medical attention.
Note:	Show this safety data sheet to the doctor in attendance. First aider needs to protect himself. Place affected clothing in a sealed bag for subsequent decontamination.

### **5. FIRE-FIGHTING MEASURES**

Extinguishing media:	Powder, CO <sub>2</sub> , Foam, Water spray.
Unsuitable extinguishing media:	Do not use high volume water stream.
Specific hazards during firefighting:	Combustible. However, does not present any particular risk in the event of a fire. Hazardous decomposition products formed under fire conditions.
Special protective equipment:	Wear full protective clothing and self-contained breathing apparatus. Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.
Specific firefighting methods:	Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product. Do not use a solid water stream as it may scatter and spread fire.
Further Information:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and

Combustion products:

contaminated fire extinguishing water must be disposed of in accordance with local regulations.

See Section 10.

## **6. ACCIDENTAL RELEASE MEASURES**

After spillage/leakage:

Methods for containment:

Recovery:

Contain spillage, soak up with non-combustible absorbent material, (e.g., sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Pump up the product into a spare container: - suitably labelled. Keep in suitable, closed containers for disposal.

Decontamination/cleaning:

Wash off with plenty of water. Recover the cleaning water for subsequent disposal.

Disposal:

Dispose of in accordance with local regulations.

Environmental precautions:

Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Contain the spilled material by bunding. The product should not be allowed to enter drains, water courses or the soil. Contain the spilled material by bunding. The product should not be allowed to enter drains, water courses or the soil. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

See Section 8 for protective equipment information.

## **7. HANDLING AND STORAGE**

Special precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Do NOT handle in a confined space. Avoid inhalation, ingestion and contact with skin and eyes. Avoid splashes. Avoid formation of aerosol. Do NOT handle without gloves. Do NOT handle if hands have any cuts or wounds.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Use clean, well-maintained personal protection equipment. Regular cleaning of equipment, work area and clothing. When using do not eat, drink or smoke. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. The user is responsible for monitoring the working environment in accordance with local laws and regulations.

Storage:

Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Store in original container. Keep in a bunded area. The floor of the storage area should be impermeable and designed to form a water-tight basin. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep away from incompatible materials to be indicated by the manufacturer Prevent unauthorized access. Keep away from: Do not mix with incompatible materials (See list section 10)., Strong oxidizing agents, Strong reducing

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Packaging requirements:	agents., Strong bases.
Storage temperature:	Coated steels. Steel drums with an inner lining. 0-30°C

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Respiratory protection:	Use a respirator with an approved filter if a risk assessment indicates this is necessary. Use respirator when performing operations involving potential exposure to vapor of the product. Recommended filter type: Combined acidic and inorganic gas/vapor type.
Eye protection:	Tightly fitting safety goggles - Face-shield.
Hand protection:	Where there is a risk of contact with hands, use appropriate gloves. Gloves must be inspected prior to use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Suitable material: Impervious gloves.
Skin and body protection:	Full protective suit Footwear protecting against chemicals Choose body protection according to the amount and concentration of the dangerous substance at the work place. Remove and wash contaminated clothing before re-use.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Use clean, well-maintained personal protection equipment. Regular cleaning of equipment, work area and clothing. When using do not eat, drink or smoke. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. The user is responsible for monitoring the working environment in accordance with local laws and regulations.
Protective measures:	Emergency equipment immediately accessible, with instructions for use. Ensure that eyewash stations and safety showers are close to the workstation location. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use. The protective equipment must be selected in accordance with current CEN standards and in cooperation with the supplier of the protective equipment.
Environmental exposure controls:	Contain the spilled material by bunding. The product should not be allowed to enter drains, water courses or the soil. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Engineering measures:	Effective exhaust ventilation system. Extract at emission point. Ensure that extracted air cannot be returned to the workplace through the ventilation system. Avoid splashes. Avoid formation of aerosol.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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Form:	Liquid
Color:	Dark red to dark brown
Odor:	Slightly pungent
pH value:	0-3
Boiling point/Boiling range:	>93°C
Melting point/freezing point:	No data available
Flash point:	> 93°C (Pensky-Martens closed up, Method: ASTM D 93)
Flammability (explosion limits in air):	
Lower:	No data available
Upper:	No data available
Auto flammability (auto-ignition temperature):	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	1.03-1.08
Viscosity:	No data available
Solubility in water:	Soluble
Oxidizing properties:	No data available

## **10. STABILITY AND REACTIVITY**

Chemical Stability:	Stable at room temperature
Reactivity:	Stable at normal ambient temperature and pressure.
Conditions to avoid:	Avoid excessive heat for prolonged periods of time. Keep away from open flames, hot surfaces and sources of ignition.
Materials to avoid:	Strong Oxidizers, strong reducing agents, strong bases.
Possibility of Hazardous Reactions:	No dangerous reaction known under conditions of normal use.
Special hazards:	None
Hazardous decomposition products:	On combustion or on thermal decomposition (pyrolysis) releases: Nitrogen oxides (NO <sub>x</sub> ) Hydrogen chloride (Carbon oxides (CO + CO <sub>2</sub> )).

## **11. TOXICOLOGICAL INFORMATION**

Eye contact:	Risk of serious damage to eyes. According to the available data on the components. According to the classification criteria for mixtures.
Skin contact:	Not classified as irritating to skin. According to the available data on the components. According to the classification criteria for mixtures.
Inhalation Aryl based aldehyde:	Maximisation Test – Guinea pig. According to the classification criteria for mixtures.
Carcinogenicity:	According to the available data on the components. The product is not considered to be carcinogenic. According to the classification criteria for mixtures.
Mutagenicity:	According to the available data on the components. Product is not considered to be genotoxic. According to the classification criteria for mixtures.
Teratogenicity:	According to the available data on the components. The product is not considered to be toxic for development. The product is not considered to be teratogenic. According to the classification criteria for mixtures.
Target organs which may be affected:	None known
Other:	No data available.

## **12. ECOLOGICAL INFORMATION**

Toxicity:	
Aquatic Compartment	
Acute toxicity to fish:	The product itself has not been tested.
Acute toxicity to daphnia and other aquatic invertebrates:	The product itself has not been tested.
Toxicity to aquatic plants:	The product itself has not been tested.
Toxicity to microorganisms:	The product itself has not been tested.
Chronic toxicity to fish:	No data available
Chronic toxicity to daphnia and other aquatic invertebrates:	No data available
Chronic Toxicity to aquatic plants:	No data available
Persistence and degradability:	
Abiotic degradation:	No data available
Physical- and photo-chemical elimination:	No data available
Biodegradation:	No data available
Degradability assessment:	Conclusion is not possible due to incomplete or heterogeneous data on the components.
Bio accumulative potential:	
Partition coefficient: n-octanol/water:	No data available
Bioconcentration factor (BCF):	Conclusion is not possible due to incomplete or heterogeneous data on the components.
Mobility in soil:	
Adsorption potential (Koc):	Conclusion is not possible due to incomplete or heterogeneous data on the components.
Known distribution to environmental compartments:	No data available
Results of PBT and vPvB assessment:	This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.
Other adverse effects:	
Ecotoxicity assessment:	
Acute aquatic toxicity:	According to the available data on the components Toxic to aquatic life.
Chronic aquatic toxicity:	According to the available data on the components. harmful to aquatic life with long lasting effects. According to the classification criteria for mixtures.

## **13. DISPOSAL CONSIDERATIONS**

Product:	Do not dispose of waste product into drains or watercourses. Do not dispose of with domestic refuse. Dispose of as hazardous waste in compliance with local and national regulations.
Container:	Completely empty the packaging prior to decontamination. De-gas. Carefully drain and then steam clean. Do not enter tanks or containers before they have been cleaned and de-gassed. Recycle following cleaning. Dispose of contents/container to an approved waste disposal plant. In accordance with RID/ADR regulations containers or tankers, which have not been cleaned or deodorized and which previously contained a hazardous product, must either be labelled or have hazard signs. Dispose of in accordance with local regulations.

**14. TRANSPORT INFORMATION**

## CN DG:

UN Number: UN 2735  
UN Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (Ammonium Quaternary Compound, Solvent)  
Transport Hazard Class: 8  
Label(s): 8  
Package Group: II  
Environmental Hazard: YES  
Special precautions for user:  
For personal protection see section 8.

## ADR:

UN Number: UN 2735  
UN Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (Ammonium Quaternary Compound, Solvent)  
Transport Hazard Class: 8  
Label(s): 8  
Package Group: II  
Environmental Hazard: YSE  
Special precautions for user:  
For personal protection see section 8.

## RID:

UN Number: UN 2735  
UN Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (Ammonium Quaternary Compound, Solvent)  
Transport Hazard Class: 8  
Label(s): 8  
Package Group: II  
Environmental Hazard: YES  
Special precautions for user:  
For personal protection see section 8.

## IMDG:

UN Number: UN 2735  
UN Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (Ammonium Quaternary Compound, Solvent)  
Transport Hazard Class: 8  
Label(s): 8  
Package Group: II  
Environmental Hazard: YES  
Special precautions for user:  
EmS: F-A, S-B  
For personal protection see section 8.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: No data available.

## IATA:

UN Number: UN 2735  
UN Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (Ammonium Quaternary Compound, Solvent).  
Transport Hazard Class: 8  
Label(s): 8  
Package Group: II

Environmental Hazard:	YES
Special precautions for user:	
Packing instruction (cargo aircraft):	854
Max net qty/pkg:	2.50 L
For personal protection see section 8.	

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

## **15. REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture.  
 Following last version of regulations are applicable for the chemical classification, SDS and label:  
 General Rule for classification and hazard communication of chemicals, GB 13690 Series standards of Safety rules for classification, precautionary labeling and precautionary statements of chemicals, GB 30000.2~GB 30000.29 General rules for preparation of precautionary label for chemicals, GB 15258 Safety data sheet for chemical products—Content and order of sections, GB/T 16483 Decree No. 591 of the State Council of the People's Republic of China: Regulations on the Control over Safety of Hazardous Chemicals List of dangerous goods GB12268 Classification and code of dangerous goods GB6944.

Other regulations: Law on the Prevention and Control of Occupational Diseases.

Notification status.

Inventory Information Status:	Status
United States TSCA Inventory:	Listed on Inventory.
Canadian Domestic Substances List (DSL):	One or more components not listed on inventory.
Australia Inventory of Chemical Substances (AICS):	One or more components not listed on inventory.
Japan. CSCL - Inventory of Existing and New Chemical Substances:	Not in compliance with the inventory.
Korea. Korean Existing Chemicals Inventory (KECI):	One or more components not listed on inventory.
China. Inventory of Existing Chemical Substances in China (IECSC):	One or more components not listed on inventory.
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	One or more components not listed on inventory.
European Inventory of Existing Commercial Chemical Substances (EINECS):	One or more components not listed on inventory.
New Zealand. Inventory of Chemical Substances:	One or more components not listed on inventory.
Taiwan Chemical Substance Inventory:	One or more components not listed on inventory.

## **16. OTHER INFORMATION**

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. We make no representation as to completeness or accuracy. In no event we shall be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

\*\*\* END OF SDS\*\*\*