

Safety Data Sheet

PRODUCT CODE: **KMA002**

Effective Date: December-2023

Version: 3.0

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

Identification of the substance or preparation:

Mutual Solvent: KMA002

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 health hazards:

Causes severe eye irritation. Causes irritation if swallowed.
Harmful if swallowed.

Main environmental hazards:

Not determined

Main physical hazards

Special precautions:

None

Physical hazard:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Conc. [wt.%]	CAS#
Butyl Ether	80-100	5131-66-8

4. FIRST AID MEASURES

Eye contact:

Immediately flush eyes with water for 30 minutes while holding eyelids open. Seek medical attention at once.

Skin contact:

Immediately remove contaminated clothes and shoes. Wash with soap and water for 15 minutes. Seek medical attention.

Inhalation:

Remove to fresh air. Seek medical attention if irritation persists or you feel unwell.

Swallowing:

If several grams are swallowed, immediate medical is required. If delayed, consider inducing vomiting with ipecac or other means. After vomiting give 2 glasses milk or water.

Notes:

None

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Further information:

Wear protective firefighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

NFPA Rating:

Health 2 Flammability 2 Reactivity 0 Other: None.

Combustion products: see Section 10.

6. ACCIDENTAL RELEASE MEASURES

After spillage/leakage:

Contain with dikes. Use explosion proof equipment to recover. Remove all sources of ignition. Soak up residual on inert absorbent (sand). Put in steel or plastic drum.

See Section 8 for protective equipment information.

See Section 13 for disposal information.

7. HANDLING AND STORAGE

Special precautions:

Keep away from heat, sparks, and flame. Keep container closed when not in use. Use with adequate ventilation. Do

Packaging requirements: not cut or weld on container.
 Uncoated phosphatized steel drum; high density polyethylene (HDPE) can for short term storage only.

Ventilation: Provide ventilation to keep airborne concentrations below exposure limits

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection: None normally needed.

Eye protection: Chemical splash goggles.

Hand protection: Impervious gloves.

Skin protection: Chemical resistant suit. Chemical resistant boots.

Exposure limit guidelines (mg/m³): Components having no established limits are not listed.
 (NE: Not established, ND: Not determined)
 These numbers may be referred to as OEL, MAC, MAK, MEL, OES, REL, PEL, or TLV.
 TWA is the 8-hour time weighted average. STEL is the short-term exposure limit.
 "C" indicates the value is a maximum concentration (ceiling).

2-BUTOXYETHANOL

	TWA	STEL	ANM
AUSTRALIA	120H	NE	
BELGIUM	121H	NE	
DENMARK	120H	NE	
EU	NE	NE	
FRANC	120H	NE	
GERMANY	100HY	NE	
HOLLAND	100H	NE	
NORWAY	100H	NE	H
UNITED KINGDOM	120H	NE	

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid

Color: Colorless

Odor: Pleasant

pH value: 5.5-6.5

Boiling point: 171.2°C

Pour point: -70°C

Flash point: 66°C

Method: Pensky-Martens CC

Flammability (explosion limits in air):

 Lower: 1.10%

 Upper: 10.60%

Auto flammability (auto-ignition temperature): 240°C

Vapor pressure: 0.12 kPa (25°C)

Relative density (specific gravity): 0.90-0.95

Bulk Density (solids): Not applicable

Solubility in water: Soluble

Viscosity: 6 mPa•s

Relative Vapor Density (air=1): 4.10

% Volatile: 100

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:	If heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

11. TOXICOLOGICAL INFORMATION

Eye contact:	Irritant. May cause pain, redness, discomfort.
Skin contact:	Irritant; may cause pain, redness, dermatitis. LD50(rabbits) = 220 mg/kg.
Inhalation:	Irritant; may cause pain and coughing. Harmful if inhaled; may cause illness.
Ingestion:	Irritant; may cause pain or discomfort to mouth, throat and stomach. Harmful if swallowed large amounts may cause illness. LD50(rabbits) = 1500 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:	May cause allergic reaction upon repeated skin exposure.
Other:	None

12. ECOLOGICAL INFORMATION

Information on product as a whole:	
Main environmental hazards:	None known
Degradability:	Biodegradable BOD = 1.8 p/p; COD = 2.2 p/p
Other:	None known

13. DISPOSAL CONSIDERATIONS

Product:	Dispose of by incineration (preferred) or chemical deactivation or other acceptable method in accordance with local regulations.
Container:	Sell drum to an approved drum reconditioner or triple rinse crush and ship to 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:

15. REGULATORY INFORMATION

Symbols:



Signal Word: Harmful
Risks: R20/21/22 Harmful by inhalation, in contact with skin and of swallowed.
R37 Irritating to respiratory system.
Safety advice: S24/25 Avoid contact with skin and eyes.
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

DISCLAIMER:

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***

Safety Data Sheet

PRODUCT CODE: **KMA007**

Effective Date: December-2023

Version: 3.0

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

Identification of the substance or preparation:

Viscoelastic Surfactant: KMA007

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:

Toxic to aquatic organisms.

Main physical hazards:

Special precautions:

Physical hazard:

Flammable

Main health hazards:

Severe irritations to eyes, Irritation and harmful if swallowed, dizziness.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Conc. [wt.%]	CAS#
Ammonium Quaternary Compound	35-45	-
Propanol	20-25	67-63-0
Water	30-35	7732-18-5

4. FIRST AID MEASURES

Eye contact:

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs.

Skin contact:

Wash with water and soap for 15 minutes, seek medical attention if irritation occurs.

Inhalation:

Remove to fresh air.

Swallowing:

Do not induce vomiting. Give 2 glasses of milk or rinse mouth with water. Seek medical attention if irritation occurs.

Note:

None

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Water fog, alcohol foam, CO₂, dry chemical.

Further information:

Vapor may travel along the ground. Avoid breathing.

NFPA Rating:

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

Combustion products:

see Section 10.

6. ACCIDENTAL RELEASE MEASURES

After spillage/leakage:

Contain with dikes. Put in steel or plastic drum etc. Soak up residual on inert absorbent (sand).

See Section 8 for protective equipment information.

See Section 13 for disposal information.

7. HANDLING AND STORAGE

Special precautions:

Away from heat, sparks or flames. Keep in well-ventilated areas to avoid direct sunlight.

Packaging requirements:	Steel or high-density polyethylene (HDPE) container.
Ventilation:	Provide ventilation to keep airborne concentrations below exposure limits.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection:	Normally not required.
Eye protection:	Chemical splash goggles.
Hand protection:	Impervious gloves made of rubber.
Skin protection:	Clean, body-covering clothing.
Exposure limit guidelines (mg/m ³):	No components have established exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Light brownish
Odor:	Faint
pH value:	6.0-7.0 (1.0 vol.% aqueous alcohol solution)
Boiling point:	80°C
Pour point:	-10°C
Flash point:	Not determined
Method:	Pensky-Martens CC.
Flammability (explosion limits in air):	
Lower:	Not determined
Upper:	Not determined
Auto flammability (auto-ignition temperature):	Not determined
Vapor pressure:	Not determined
Relative density (specific gravity):	0.95-1.05
Bulk density (solids):	Not applicable
Solubility in water:	Soluble

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	Unknown
Materials to avoid:	Oxidizers
Hazardous polymerization:	Will not occur
Dust explosion hazard (solids):	Not applicable
Special hazards:	None
Hazardous decomposition products:	When heated strongly or burned, oxides of carbon, nitrogen oxides, and harmful organic chemical fumes are released.

11. TOXICOLOGICAL INFORMATION

Eye contact	May irritate, cause redness, pain or discomfort.
Skin contact:	Irritating, cause redness, pain and dermatitis.
Inhalation:	Mildly irritating
Ingestion:	Harmful if swallow large amount.
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 cause dizziness, nausea or headache.

12. ECOLOGICAL INFORMATION

Information on product as a whole:

Main environmental hazards:	Not available
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:	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:	

15. REGULATORY INFORMATION

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

DISCLAIMER:

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*** END OF SDS***

Safety Data Sheet

PRODUCT CODE: **KMA007A**

Effective Date: December-2023

Version: 3.0

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

Identification of the substance or preparation:

Ultra-high Temperature Viscoelastic Surfactant: KMA007A

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

Flammable liquids, Category 2:

H225 - Highly flammable liquid and vapor.

Serious eye damage, Category 1:

H318 - Causes serious eye damage.

Specific target organ toxicity single exposure
Category 3:

H336 - May cause drowsiness or dizziness. (Central nervous system)

Pictogram



Signal word:

Danger

Precautionary Statements:

General Prevention:

None

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

P233 - Keep container tightly closed.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

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

Response:

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

P304 + P340 + P312 - IF INHALED Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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.

P370 + P378 - In case of fire Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Conc. [wt.%]	CAS #
Ammonium Quaternary Compound	35-45	-
Propanol	20-25	67-63-0

4. FIRST AID MEASURES

Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical advice/attention.
Skin contact:	Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. Use a mild soap if available. If skin irritation occurs, seek medical advice/attention.
Inhalation:	Move to fresh air in case of accidental inhalation of vapors. Keep at rest. Consult a physician if necessary. Consult a physician after significant exposure.
Swallowing:	Do not induce vomiting without medical advice. Rinse mouth with water. Keep at rest. Do not give anything to drink. Consult a physician if necessary.
Notes:	None

5. FIRE-FIGHTING MEASURES

Extinguishing media:	Multi-purpose powders, CO ₂ , Foam, Water spray.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	Highly flammable liquid and vapor. Under fire conditions, highly flammable gas is released, which increases fire/explosion hazards. Fire or intense heat may cause violent rupture of packages. Flash back possible over considerable distance. Hazardous decomposition products formed under fire conditions. On heating highly toxic gases are released.
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:	Stay upwind. Pay attention to flashback. Suppress (knock down) gases/vapors/mists with a water spray jet. Fight fire with normal precautions from a reasonable distance. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. 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. Remove undamaged containers from fire area if it is safe to do so.
Further information:	Evacuate personnel to safe areas. Intervention only by capable personnel who are trained and aware of the hazards of the product. Never approach containers which have been exposed to fire, without cooling them sufficiently. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Combustion products:	see Section 10.

6. ACCIDENTAL RELEASE MEASURES

After spillage/leakage:	
Prohibition:	No sparking tools should be used.
Methods for containment:	Stop leak if safe to do so. dam up with sand or inert earth (do not use combustible materials).
Recovery:	Absorb the product onto porous material. Sweep up or vacuum up spillage and collect in suitable container for disposal. Use approved industrial vacuum cleaner for removal. Keep in

Decontamination/cleaning:	suitable, closed containers for disposal. Wash with plenty of water and detergent. Clean contaminated surface thoroughly. Recover the cleaning water for subsequent disposal.
Disposal:	Dispose of as hazardous waste in compliance with local and national 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.

See Section 8 for protective equipment information.

7. HANDLING AND STORAGE

Special precautions:	Handle in accordance with good industrial hygiene and safety practice. The product must only be handled by specifically trained employees. Vapors are heavier than air and may spread along floors. Do not use in areas without adequate ventilation. Vapor extraction at source. Do NOT handle in a confined space. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Take precautionary measures against static discharges. Prevent the build-up of electrostatic charge. Ensure all equipment is electrically grounded before beginning transfer operations. Ground/bond container and receiving equipment. Use only non-sparking tools. Wear clothes and shoes which dissipate static electricity. Wear personal protective equipment. Do NOT handle without gloves. Avoid inhalation, ingestion and contact with skin and eyes. Avoid splashes. Avoid formation of aerosol.
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. Shower or bathe at the end of working. 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. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in a banded area. Keep away from open flames, hot surfaces and sources of ignition. Keep away from incompatible materials to be indicated by the manufacturer Keep locked up or in an area accessible only to qualified or authorized persons. Keep away from: Strong oxidizing agents.
Packaging requirements:	Stainless Steel or Coated metal container, not plastic materials.
Storage temperature:	0-35°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection:	In the case of vapor formation use a respirator with an approved filter. Recommended Filter type: Organic vapor type.
Eye protection:	Chemical splash goggles.
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.

Skin and body protection:

Wear fire resistant and antistatic coveralls- Full protective suit- Antistatic boots.

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. Shower or bathe at the end of working. 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:

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.

Engineering measures:

Effective exhaust ventilation system. Extract at emission point. Ensure that extracted air cannot be returned to the workplace through the ventilation system. Use only in an area equipped with explosion proof exhaust ventilation. Use only in an area equipped with flame proof exhaust ventilation. Avoid splashes. Avoid formation of aerosol.

Exposure Limit Guidelines (mg/m³):

Components with national occupational exposure limits:

Components	Value Type	Value	Basis
Propan-2-ol	PEL (long-term)	400 ppm 983 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances.
Propan-2-ol	PEL (short term)	500 ppm 1,230 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances.

Components with other occupational exposure limits

Components	Value Type	Value	Basis
Propan-2-ol	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV).
Propan-2-ol	STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV).

Biological Exposure Indices

Components	Value Type	Value	Basis
Propan-2-ol	BEI	40 mg/l Acetone Urine End of shift at	ACGIH - Biological Exposure Indices (BEI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Amber-yellow
Odor:	Faint
pH value:	7.0-8.0 (1.0 vol.% aqueous alcohol solution)
Boiling point/Boiling range:	80°C (data based on similar products)
Pour point:	0°C
Flash point:	20°C closed up (data based on similar products)
Flammability (explosion limits in air):	
Lower:	Not available
Upper:	Not available
Auto flammability (auto-ignition temperature):	Not available
Vapor pressure:	Not available
Relative density (specific gravity):	1.00-1.05
Viscosity:	Not available
Solubility in water:	Miscible
Oxidizing properties	Not considered as oxidizing, Structure-activity relationship (SAR).

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage conditions.
Reactivity	Stable at normal ambient temperature and pressure.
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition. Direct sources of heat.
Materials to avoid:	Strong Oxidizers
Possibility of Hazardous Reactions:	possible with gas/vapor and air mixtures above flash point.
Special hazards:	None
Hazardous decomposition products:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), Nitrogen oxides (NOx), Sulphur oxides.

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:	Does not cause respiratory sensitization. According to the available data on the components. 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

Sensitization: Not known to cause allergic reaction.

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:

The product itself has not been tested.

Chronic toxicity to daphnia and other aquatic invertebrates:

The product itself has not been tested.

Chronic Toxicity to aquatic plants:

No data available.

Terrestrial Compartment:

Toxicity to terrestrial plants:

The product itself has not been tested.

Toxicity to above ground organisms

The product itself has not been tested.

Persistence and degradability

Abiotic degradation:

No data available.

Physical- and photo-chemical elimination:

No data available.

Bio degradation:

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.

Bio concentration factor (BCF):

None of the components are considered to be potentially bio accumulative.

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.

According to the classification criteria for mixtures.

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:

Empty packaging. Rinse with an appropriate solvent. Dispose of rinse water in accordance with local and national regulations. Dispose of contents/ container to an approved waste disposal plant. Dispose of contents/container in accordance with local regulation. Where possible recycling is preferred to disposal or incineration. The recycled material must be completely dry and free of pollutants. 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.

14. TRANSPORT INFORMATION

ADR

UN number: UN 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Classification Code: F1
Environmental hazards: NO
Special precautions for user
For personal protection see section 8.

RID

UN number: UN 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Classification Code: F1
Environmental hazards: NO
Special precautions for user
For personal protection see section 8.

IMDG

UN number UN: 1219
Proper shipping name: ISOPROPANOL, solution
IMDG Code segregation group: Not Relevant
Transport hazard class: 3
Label(s): 3
Packing group: II
Environmental hazards
Marine pollutant: NO
Special precautions for user
EmS: F-E, S-D
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 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Environmental hazards: NO
Special precautions for user Packing 364

instruction (cargo aircraft):

Max net qty/pkg: 60.00 L

Packing instruction (passenger aircraft): 353

Max net qty/pkg: 5.00 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:

Local regulations

No data available

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***

Safety Data Sheet

PRODUCT CODE: **KMA007B**

Effective Date: December-2023

Version: 3.0

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

Identification of the substance or preparation:

High Temperature Viscoelastic Surfactant: KMA007B

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

Flammable liquids, Category 2:

H225 - Highly flammable liquid and vapor.

Serious eye damage, Category 1:

H318 - Causes serious eye damage.

Specific target organ toxicity single exposure
Category 3:

H336 - May cause drowsiness or dizziness. (Central nervous system)

Pictogram



Signal word:

Danger

Precautionary Statements:

General Prevention:

None

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

P233 - Keep container tightly closed.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

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

Response:

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

P304 + P340 + P312 - IF INHALED Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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.

P370 + P378 - In case of fire Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Conc. [wt.%]	CAS #
Ammonium Quaternary Compound	30-40	-
Propanol	15-20	67-63-0
Water	35-40	7732-18-5

4. FIRST AID MEASURES

Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical advice/attention.
Skin contact:	Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. Use a mild soap if available. If skin irritation occurs, seek medical advice/attention.
Inhalation:	Move to fresh air in case of accidental inhalation of vapors. Keep at rest. Consult a physician if necessary. Consult a physician after significant exposure.
Swallowing:	Do not induce vomiting without medical advice. Rinse mouth with water. Keep at rest. Do not give anything to drink. Consult a physician if necessary.
Notes:	None

5. FIRE-FIGHTING MEASURES

Extinguishing media:	Multi-purpose powders, CO ₂ , Foam, Water spray.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	Highly flammable liquid and vapor. Under fire conditions, highly flammable gas is released, which increases fire/explosion hazards. Fire or intense heat may cause violent rupture of packages. Flash back possible over considerable distance. Hazardous decomposition products formed under fire conditions. On heating highly toxic gases are released.
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:	Stay upwind. Pay attention to flashback. Suppress (knock down) gases/vapors/mists with a water spray jet. Fight fire with normal precautions from a reasonable distance. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. 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. Remove undamaged containers from fire area if it is safe to do so.
Further information:	Evacuate personnel to safe areas. Intervention only by capable personnel who are trained and aware of the hazards of the product. Never approach containers which have been exposed to fire, without cooling them sufficiently. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Combustion products:	see Section 10.

6. ACCIDENTAL RELEASE MEASURES

After spillage/leakage:	
Prohibition:	No sparking tools should be used.
Methods for containment:	Stop leak if safe to do so. dam up with sand or inert earth (do not use combustible materials).
Recovery:	Absorb the product onto porous material. Sweep up or vacuum up spillage and collect in suitable container for disposal. Use approved industrial vacuum cleaner for removal. Keep in suitable, closed containers for disposal.

Decontamination/cleaning:	Wash with plenty of water and detergent. Clean contaminated surface thoroughly. Recover the cleaning water for subsequent disposal.
Disposal:	Dispose of as hazardous waste in compliance with local and national 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.

See Section 8 for protective equipment information.

7. HANDLING AND STORAGE

Special precautions:	Handle in accordance with good industrial hygiene and safety practice. The product must only be handled by specifically trained employees. Vapors are heavier than air and may spread along floors. Do not use in areas without adequate ventilation. Vapor extraction at source. Do NOT handle in a confined space. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Take precautionary measures against static discharges. Prevent the build-up of electrostatic charge. Ensure all equipment is electrically grounded before beginning transfer operations. Ground/bond container and receiving equipment. Use only non-sparking tools. Wear clothes and shoes which dissipate static electricity. Wear personal protective equipment. Do NOT handle without gloves. Avoid inhalation, ingestion and contact with skin and eyes. Avoid splashes. Avoid formation of aerosol.
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. Shower or bathe at the end of working. 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. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in a bunded area. Keep away from open flames, hot surfaces and sources of ignition. Keep away from incompatible materials to be indicated by the manufacturer. Keep locked up or in an area accessible only to qualified or authorized persons. Keep away from: Strong oxidizing agents.
Packaging requirements:	Stainless Steel or Coated metal container, not plastic materials.
Storage temperature:	0-35°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection:	In the case of vapor formation use a respirator with an approved filter. Recommended Filter type: Organic vapor type.
Eye protection:	Chemical splash goggles.
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.

Skin and body protection:

Wear fire resistant and antistatic coveralls- Full protective suit- Antistatic boots.

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. Shower or bathe at the end of working. 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:

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.

Engineering measures:

Effective exhaust ventilation system. Extract at emission point. Ensure that extracted air cannot be returned to the workplace through the ventilation system. Use only in an area equipped with explosion proof exhaust ventilation. Use only in an area equipped with flame proof exhaust ventilation. Avoid splashes. Avoid formation of aerosol.

Exposure Limit Guidelines (mg/m³):

Components with national occupational exposure limits:

Components	Value Type	Value	Basis
Propan-2-ol	PEL (long-term)	400 ppm 983 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances.
Propan-2-ol	PEL (short term)	500 ppm 1,230 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances.

Components with other occupational exposure limits

Components	Value Type	Value	Basis
Propan-2-ol	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV).
Propan-2-ol	STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV).

Biological Exposure Indices

Components	Value Type	Value	Basis
Propan-2-ol	BEI	40 mg/l Acetone Urine End of shift at end of workweek.	ACGIH - Biological Exposure Indices (BEI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Amber-yellow
Odor:	Faint
pH value:	7.0-8.0 (1.0 vol.% aqueous alcohol solution.)
Boiling point/Boiling range:	80°C (data based on similar products.)
Pour point:	0°C
Flash point:	20°C closed up (data based on similar products.)
Flammability (explosion limits in air):	
Lower:	Not available
Upper:	Not available
Auto flammability (auto-ignition temperature):	Not available
Vapor pressure:	Not available
Relative density (specific gravity):	1.00-1.05
Viscosity:	Not available
Solubility in water:	Miscible
Oxidizing properties	Not considered as oxidizing, structure-activity relationship (SAR).

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage conditions.
Reactivity	Stable at normal ambient temperature and pressure.
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition. Direct sources of heat.
Materials to avoid:	Strong Oxidizers
Possibility of Hazardous Reactions:	possible with gas/vapor and air mixtures above flash point.
Special hazards:	None
Hazardous decomposition products:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), Nitrogen oxides (NOx), Sulphur oxides.

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:	Does not cause respiratory sensitization. According to the available data on the components. 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.
Sensitization:	Not known to cause allergic reaction.

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:	The product itself has not been tested.
Chronic toxicity to daphnia and other aquatic invertebrates:	The product itself has not been tested.
Chronic Toxicity to aquatic plants:	No data available.
Terrestrial Compartment:	
Toxicity to terrestrial plants:	The product itself has not been tested.
Toxicity to above ground organisms:	The product itself has not been tested.
Persistence and degradability	
Abiotic degradation:	No data available.
Physical- and photo-chemical elimination:	No data available.
Bio degradation:	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.
Bio concentration factor (BCF):	None of the components are considered to be potentially bio accumulative.
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. According to the classification criteria for mixtures
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:	Empty packaging. Rinse with an appropriate solvent. Dispose of rinse water in accordance with local and national regulations. Dispose of contents/ container to an approved waste disposal plant. Dispose of contents/container in accordance with local regulation. Where possible recycling is preferred to disposal or incineration. The recycled material must be completely dry and free of pollutants. 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.

14. TRANSPORT INFORMATION

ADR

UN number: UN 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Classification Code: F1
Environmental hazards: NO
Special precautions for user
For personal protection see section 8.

RID

UN number: UN 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Classification Code: F1
Environmental hazards: NO
Special precautions for user
For personal protection see section 8.

IMDG

UN number UN: 1219
Proper shipping name: ISOPROPANOL, solution
IMDG Code segregation group: Not Relevant
Transport hazard class: 3
Label(s): 3
Packing group: II
Environmental hazards
Marine pollutant: NO
Special precautions for user
EmS: F-E, S-D
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 1219
Proper shipping name: ISOPROPANOL, solution
Transport hazard class: 3
Label(s): 3
Packing group: II
Environmental hazards: NO
Special precautions for user Packing instruction (cargo aircraft): 364
Max net qty/pkg: 60.00 L
Packing instruction (passenger aircraft): 353

Max net qty/pkg: 5.00 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:

Local regulations

No data available

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):

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Japan. CSCL - Inventory of Existing and New Chemical Substances:

Not in compliance with the inventory.

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New Zealand. Inventory of Chemical Substances:

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Taiwan Chemical Substance Inventory:

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*** END OF SDS***