

SAFETY DATA SHEET

Creation Date 08-Jan-2007	Revision Date 19-Jan-2018	Revision Number 4
	1. Identification	
Product Name	1-Hexadecylpyridinium chloride monohydr	rate
Cat No. :	AC226990000; AC226990025; AC226990056 AC226995000	0; AC226991000;
CAS-No Synonyms	6004-24-6 Cetylpyridinium chloride monohydrate	
Recommended Use Uses advised against	Laboratory chemicals. Not for food, drug, pesticide or biocidal product use	
Details of the supplier of the sa	fety data sheet	
<u>Company</u> Fisher Scientific	Acros Organics	

Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100

Acros Organics One Reagent Lane Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 2
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word Danger

Hazard Statements

Toxic if swallowed Causes skin irritation Causes serious eye damage Fatal if inhaled May cause respiratory irritation



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

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

Use only outdoors or in a well-ventilated area

Wear respiratory protection

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

Inhalation

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

Immediately call a POISON CENTER or doctor/physician

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

Skin

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

Eyes

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

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Storage

Store locked up

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Pyridinium, cetyl-, chloride monohydrate	6004-24-6	>95
Pyridinium, 1-hexadecyl-, chloride	123-03-5	-

4. First-aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Eye Contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a

West important symptoms and ffects Notes to Physician Causes severe eye damage. Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Unsuitable Extinguishing Media No information available No information available No information available No information available No data available No data available No data available No data available No data available Sensitivity to Static Discharge No information available Sensithic sensonal protective equipment. Avoid dust formation. N	Immediate medical attention is required. Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately. Causes severe eye damage. Freat symptoms and Freat symptoms and Freat symptomatically				
Works important symptoms and ffects Notes to Physician Causes severe eye damage. Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Unsuitable Extinguishing Media No information available Flash Point Method - No information available No information available Autoignition Temperature Explosion Limits No data available No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not flugh into a paratus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective goar. Thermal decomposition can lead to release of irritating gases and vapors. NFPA Ma 1 Flammability Instability Physical hazards Do not flugh into surface water or santary sever system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.	Most important symptoms and effects Notes to Physician Causes severe eye damage. Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Unsuitable Extinguishing Media No information available Flash Point Method - No information available Autoignition Temperature Explosion Limits No data available Upper No data available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardos Combustion Products Hydrogen chindre gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO-) Protective Equipment and Precautions for Firefighters As in any fire, was resil-contained breasting apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. NFPA A sin any fire, was resil-contained breasting apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. NFPA Bersonal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away frow and vapido of spillvak. Evacuate personal low acta areas. Do not flush into surface water or sanilary sewer system. Do not allow material to contaminate ground water system. Prevent product rom entoring drains. Local authorities should be advised if significant spillages cannot be containeer for dispos				oper respiratory medical device.
Effects Solution Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jusuitable Extinguishing Media No information available Flash Point No information available Method - No information available Vupper No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available Sensitivity to Static Discharge No information available Son at allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical No indomation for Firefighters Na in any fire, were self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. VEPA Health Flammability Instability Physical hazards arise areaus. Environmental Precautions Ensure adequate versitiand area rystem. Provent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. <t< th=""><th>Interst symptomatically Solutable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jusuitable Extinguishing Media No information available Flash Point No information available Method - No information available Variation Explosion Limits No information available Upper No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available Sensitivity to Mechanical Impact No information available Sensitivity to Mechanical Impact Noi No Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Sensitivity to Mechanical Borating appartus pressure-demand. MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. VEPA Heatih Filammability</th><th>ngestion</th><th colspan="3">Do not induce vomiting. Call a physician or Poison Control Center immediately.</th></t<>	Interst symptomatically Solutable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jusuitable Extinguishing Media No information available Flash Point No information available Method - No information available Variation Explosion Limits No information available Upper No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available Sensitivity to Mechanical Impact No information available Sensitivity to Mechanical Impact Noi No Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Sensitivity to Mechanical Borating appartus pressure-demand. MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. VEPA Heatih Filammability	ngestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.		
Notes to Physician Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jnsuitable Extinguishing Media No information available Filash Point No information available Mutoightition Temperature No information available Explosion Limits No data available Upper No data available No word the Chemical No information available Sensitivity to Static Discharge No information available Specific Hazards Arising from the Chemical No adata available Stardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO:) Vordreget Hazards Arising from the Chemical Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO:) Protective Equipment and Precautions for Firefighters Ns in any file, wear self-contained boreathing appartus pressure-demand, MSHA/NIOSH (approved or equivalent) and full or detares and water self. N/A Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formatio	Notes to Physician Treat symptomatically Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jnsuitable Extinguishing Media No information available Flash Point No information available Method - No information available Variation Temperature No information available Sensitivity to Mechanical Impact No information available No data available Sensitivity to State Discharge No information available Specific Hazards Arising from the Chemical No data available Son and law run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chioride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO:) Protective Equipment and Precautions for Firefighters No in any fire, wear sell-containee borething apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. Physical hazards N/A Eresonal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Repeople away from and upwind of split/leak. Execuate personal protective equipment. Avoid dust formation. N/A Cont flush inito surface water or sanitary sever system. Don al allow material t				
Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jnsuitable Extinguishing Media No information available Flash Point No information available Method - No data available Autoignition Temperature Explosion Limits No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge Sensitivity to Static Discharge No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Noxi (CC) Nortoetcive Equipment and Precautions for Firefighters Sensitivity ease self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full instability Yersonal Precautions Flammability Instability Physical hazards Sin any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full instability NA Sis in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full instability NA Sis on the fire and the do release of irritating gases and vapors. Sensitity and the dower and a senses and vap	Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Jnsuitable Extinguishing Media No information available No information available Flash Point Method - No information available No information available No information available No information available Autoignition Temperature Scyplosion Limits No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Notact available Signific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazards unification on the common coulde (CO) Carbon dioxide (CO:) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. HEPA Health 3 Flammability Instability Physical hazards N/A To the common of thus into surface water or sanitary sever system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.<		Treat symptomatically		
Insuitable Extinguishing Media No information available Flash Point No information available Method - No information available Subject of Line Product Stress No data available Stress of Line Product Stress No data available Subject In the Product Stress of Line Product Stress No data available Specific Hazards Arising from the Chemical No information available Specific Hazards Arising from the Chemical No information available Specific Hazards Arising from the Chemical No information available Specific Hazards Arising from the Chemical No information available Specific Hazards Arising from the Chemical No information available No ind allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Vigrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. HEPA Health Flammability Instability Physical hazards NiA Co. Acccidental release measures Do not flush into surface water or sanitary sewer system.	Insuitable Extinguishing Media No information available Flash Point Method - No information available Vulper Explosion Limits No information available Upper Lower No data available No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products (NOX) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters is an yfire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. HEPA Balth 3 Flammability 1 Instability N/A Physical hazards N/A Co. Accidental release measures Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spli/Jeak. Evacuate personal to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product for eatient sees. No in difficient splilages cannot be contained. Hethods for Containment and Clean Sweep up or vacuum up splilage and collect in suitable container for disposal. Avoid dust formation. Upp Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. <			<u> </u>	
Flash Point Method - No information available No information available Structure Supposition Limits No data available No data available Supposition Limits No data available No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available No information available Sensitivity to Static Discharge No information available Sensitivity to Static Discharge No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous (CO2) Itazardous Combustion Products Mydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO2) Provide the Composition can lead to release of irritating gases and vapors. IFPA Meath Flammability Instability Physical hazards N/A Co. Accidental release measures Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Vertex of Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation.	Flash Poit Method - No information available No information available Support No data available No data available Support No data available No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available No information available Sensitivity to Static Discharge No information available No information available Sensitivity to Static Discharge No information available No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products (NOX) Carbon monoxide (CO) Carbon dioxide (COs) Vidragen childred gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (COs) Totestrive Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. IFPA Meath Flammability Instability Physical hazards N/A Co. Acccidental release measures Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Method 5 for Containment and Clean Sweep up or vacuum up spillage and collect in suitable contained. Do not get in eyes, on skin, or on clothin	Suitable Extinguishing Media	Use water spray, alcohol-r	esistant foam, dry chemical or	carbon dioxide.
Method - No information available Autoignition Temperature Explosion Limits No data available No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No data available No information available No information available Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hazardous Combustion Products Hazardous Combustion Products Vortective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition allead to release of irritating gases and vapors. HPA A Flammability 1 Instability 1 Physical hazards N/A Method 5 Acccidental release measures Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spil/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillage and collect in suitable container for disposal. Avoid dust formation. Keep people away from and upwind a spillage cannot be contained. Do not allow material to containiate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Ip Do not get in eyes, on skin, or on clothing. Wear	Method - No information available Autoignition Temperature Explosion Limits No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available Sensitivity to Static Discharge No information available On ot allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Vydrogen childes (NOx) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. IFPA Health Flammability Instability Physical hazards Mark C. Acccidental release measures Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Upper On ot get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. <t< td=""><td>Insuitable Extinguishing Media</td><td>No information available</td><td></td><td></td></t<>	Insuitable Extinguishing Media	No information available		
Explosion Limits No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. VPPA Health Flammability Instability Physical hazards No and full protective gear. N/A N/A C Accidental release measures N/A Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do on to flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Wethods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Upp Do not get in eyes, on skin, or on clothing. Wear	Explosion Limits No data available Upper No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge Specific Hazards Arising from the Chemical Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO ₂) Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. VFPA Health Flammability Instability Physical hazards No not flush into surface water or sanitary sever system. Do not allow material to contaminate ground water or sanitary sever system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Wethods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Upp Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Upp Event on the soft or on during water system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. <td></td> <td></td> <td></td> <td></td>				
Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO ₂) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. NFPA Health Physical hazards A 1 1 N/A Control Collections Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flux hinto surface water or sanitary sever system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Up To thandling and storage Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure <th>Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO₂) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. WFPA Beatth 3 Flammability Instability Physical hazards N/A Presonal Precautions Environmental Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/eak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillage and collect in suitable container for disposal. Avoid dust formation. Methods for Containment and Clean by Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Verp with the surface water or solitary sever personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure</th> <th>Explosion Limits Upper Lower Sensitivity to Mechanical Imp</th> <th>No data available act No information available</th> <th></th> <th></th>	Do not allow run-off from fire fighting to enter drains or water courses. Hazardous Combustion Products Hydrogen chloride gas Nitrogen oxides (NOX) Carbon monoxide (CO) Carbon dioxide (CO ₂) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. WFPA Beatth 3 Flammability Instability Physical hazards N/A Presonal Precautions Environmental Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/eak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillage and collect in suitable container for disposal. Avoid dust formation. Methods for Containment and Clean by Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Verp with the surface water or solitary sever personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure	Explosion Limits Upper Lower Sensitivity to Mechanical Imp	No data available act No information available		
Hydrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. IFPA Health Instability Physical hazards N/A Image: Application of the second s	Hydrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO2) Protective Equipment and Precautions for Firefighters Is in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full rotective gear. Thermal decomposition can lead to release of irritating gases and vapors. IFPA Health Instability Physical hazards N/A Image: Note the second seco			ses.	
3 1 1 N/A Opersonal Precautions Environmental Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Jp Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure	3 1 1 N/A Operations Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Jandling and storage Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure	Protective Equipment and Precau As in any fire, wear self-contained b protective gear. Thermal decompos	utions for Firefighters preathing apparatus pressure-o ition can lead to release of irrit	lemand, MSHA/NIOSH (appro ating gases and vapors.	
Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Jp 7. Handling and storage Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure Controls / personal protection This product does not contain any hazardous materials with occupational exposure	Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Jp 7. Handling and storage Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure Controls / personal protection This product does not contain any hazardous materials with occupational exposure		-	1	
Environmental Precautions Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Jp Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. 7. Handling and storage Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid dust formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection This product does not contain any hazardous materials with occupational exposure	Environmental Precautions Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Methods for Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Containment and Clean Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Image: Container and the system. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid du formation. Image: Container and the system and the syste				
Jp formation. 7. Handling and storage Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid due formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	Jp formation. 7. Handling and storage Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid du formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure		Keep people away from an Do not flush into surface w contaminate ground water	nd upwind of spill/leak. Evacua vater or sanitary sewer system system. Prevent product from	ate personnel to safe areas. . Do not allow material to entering drains. Local authorities
Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid due formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid du formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure			pillage and collect in suitable o	container for disposal. Avoid dust
formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	formation. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest. Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. 8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure				
8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	8. Exposure controls / personal protection Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	landling	formation. Use only under		
Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	Exposure Guidelines This product does not contain any hazardous materials with occupational exposure	Storage	Keep in a dry, cool and we	II-ventilated place. Keep conta	ainer tightly closed.
		8.	•		
		Exposure Guidelines			

Engineering Measures	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Personal Protective Equipment	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Long sleeved clothing.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Powder Solid
Appearance	White
Odor	Characteristic
Odor Threshold	No information available
pH	6.0-7.0 1% aq.sol
Melting Point/Range	80 - 83 °C / 176 - 181.4 °F
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	
Decomposition Temperature	234 °C
Viscosity	Not applicable
Molecular Formula	C21 H38 CI N . H2 O
Molecular Weight	358.01

10. Stability and reactivity

Reactive Hazard	None known, based on information available	
Stability	Hygroscopic.	
Conditions to Avoid	Incompatible products. Exposure to moist air or water.	
Incompatible Materials	Strong oxidizing agents, Acids, Acid anhydrides, Acid chlorides	
Hazardous Decomposition Products Hydrogen chloride gas, Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO ₂)		
Hazardous Polymerization	No information available.	

Hazardous Reactions

None under normal processing.

11. Toxicological information

Acute Toxicity

Component Informa		LD50 Oral		LD50 Dermal	1 C 50	Inhalation
Pyridinium, 1-hexadec		LD50 = 200 mg/kg (R		>5000 mg/kg (Rat)	LC50 = 0.054-0.51 mg/L/4h (
Toxicologically Syn Products Delayed and immed		No information available s well as chronic effects from short and long-term exposure				
Irritation		Risk of serious da	mage to eyes Irrita	ting to respiratory sy	stem and skin	
Sensitization		No information ava	ailable			
Carcinogenicity		The table below in	dicates whether ea	ach agency has liste	d any ingredient	as a carcinogen.
Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
					••••	WIEXICO
Pyridinium, cetyl-, chloride monohydrate	6004-24-6	-	Not listed	Not listed	Not listed	Not listed
		-				
chloride monohydrate Pyridinium, 1-hexadecyl-, chloride	6004-24-6	Not listed	Not listed Not listed	Not listed	Not listed	Not listed
chloride monohydrate Pyridinium, 1-hexadecyl-, chloride Mutagenic Effects	6004-24-6 123-03-5	Not listed Not listed	Not listed Not listed ailable	Not listed	Not listed	Not listed
chloride monohydrate Pyridinium, 1-hexadecyl-, chloride Mutagenic Effects Reproductive Effect	6004-24-6 123-03-5 s	Not listed Not listed No information ava	Not listed Not listed ailable ailable.	Not listed	Not listed	Not listed
chloride monohydrate Pyridinium, 1-hexadecyl-, chloride Mutagenic Effects Reproductive Effect Developmental Effe	6004-24-6 123-03-5 s	Not listed Not listed No information ava No information ava	Not listed Not listed ailable ailable. ailable.	Not listed	Not listed	Not listed
chloride monohydrate Pyridinium,	6004-24-6 123-03-5 ss cts	Not listed Not listed No information ava No information ava No information ava	Not listed Not listed ailable ailable. ailable. ailable.	Not listed	Not listed	Not listed

Symptoms / effects, both acute and No information available delayed

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Pyridinium, cetyl-, chloride	Not listed	LC50: 0.01 mg/L/96h	Not listed	EC50: 9.18 mg/L/48h
monohydrate		(Cyprinus carpio)		
Persistence and Degrada	ability No information	on available		
Bioaccumulation/ Accumulation No information available.				
Mobility Will likely be mobile in the environment due to its water solubility.				
	Component		log Pow	

Pyridinium, cetyl-, chloride monohydrate	1.7

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT	
UN-No	UN2811
Proper Shipping Name	Toxic solid, organic, n.o.s
Proper technical name	Pyridinium, cetyl-, chloride monohydrate
Hazard Class	6.1
Packing Group	II
TDG	
UN-No	UN2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	II
IATA	
UN-No	UN2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	II
IMDG/IMO	
UN-No	UN2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	ll
	15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Pyridinium, cetyl-, chloride monohydrate	-	-	-	-	-		Х	Х	Х	Х	-
Pyridinium, 1-hexadecyl-, chloride	Х	Х	-	204-593-9	-		Х	Х	Х	Х	-

Legend: X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Not applicable

SARA 313	Not applicable
SARA 311/312 Hazard Categories	See section 2 for more information
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA Occupational Safety and Health Not applicable	Administration
CERCLA	Not applicable
California Proposition 65	This product does not contain any Proposition 65 chemicals
U.S. State Right-to-Know Regulations	Not applicable
U.S. Department of Transportation	
Reportable Quantity (RQ): DOT Marine Pollutant DOT Severe Marine Pollutant	N N N
U.S. Department of Homeland Secur This product does not contain any DHS	
Other International Regulations	
Mexico - Grade	No information available

	16. Other information	
Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com	
Creation Date Revision Date Print Date Revision Summary	08-Jan-2007 19-Jan-2018 19-Jan-2018 This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).	

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS