

Safety Data Sheet SIO6640.0
Date of issue: 11/21/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Physical state : Liquid

Substance name : n-OCTADECYLTRICHLOROSILANE, 95%

Product code : SIO6640.0 Formula : C18H37Cl3Si

Synonyms : OTS; TRICHLOROSILYLOCTADECANE; TRICHLOROOCTADECYLSILANE

Chemical family : CHLOROSILANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Chemical intermediate

For research and industrial use only

1.3. Details of the supplier of the safety data sheet

GELEST, INC.

11 East Steel Road Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin Corr. 1B H314 Eye Dam. 1 H318

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection

P260 - Do not breathe vapors P310 - Immediately call a doctor

P264 - Wash hands thoroughly after handling

P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse

skin with water/shower

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing P363 - Wash contaminated clothing before reuse

P405 - Store locked up

P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent

Name : n-OCTADECYLTRICHLOROSILANE, 95%

CAS No : 112-04-9 FC no : 203-930-7

Name	Product identifier	%	Classification (GHS-US)
Octadecyltrichlorosilane	(CAS No) 112-04-9	> 95	Skin Corr. 1B, H314 Eye Dam. 1, H318
Hydrogen chloride	(CAS No) 7647-01-0		Skin Corr. 1A, H314 Eye Dam. 1, H318

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek

medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical

advice/attention.

First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes severe skin burns and eye damage.

Symptoms/injuries after inhalation : May be irritating to the respiratory system. Overexposure may cause: Cough. Headache.

Nausea.

Symptoms/injuries after skin contact : Causes (severe) skin burns.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating fumes of hydrogen chloride and organic acid vapors may develop when material is

exposed to water or open flame.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or

shovel spills into appropriate container for disposal.

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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in

process area to prevent accumulation of vapors.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or

smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

Incompatible materials : Acids. Alcohols. Oxidizing agent.

Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrogen chloride (7647-01-0)				
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm		
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	7 mg/m³		
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm		
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	7 mg/m³		
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm		
USA IDLH	US IDLH (ppm)	50 ppm		

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

Personal protective equipment : Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be

available in the immediate vicinity of any potential exposure.

Hand protection : Neoprene or nitrile rubber gloves.

Eye protection : Chemical goggles or face shield. Contact lenses should not be worn.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : NIOSH-certified combination organic vapor/acid gas (yellow cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear liquid.
Molecular mass : 387.93 g/mol
Color : Straw.

Odor : Acrid. Similar to hydrogen chloride.

Odor threshold : No data available

Refractive index : 1.4602

pH : No data available Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 22 °C

Freezing point : No data available

Boiling point : 160 - 162 °C @ 3 mm Hg

Flash point : 189 °C

Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : < 0.01 mm Hg 25°C
Relative vapor density at 20 °C : No data available

Relative density : 0.95

Solubility : Insoluble in water. Reacts with water.

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Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating hydrogen chloride.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Alcohols. Oxidizing agent.

10.6. Hazardous decomposition products

Hydrogen chloride. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Hydrogen chloride (7647-01-0)				
LD50 oral rat	238 - 277 mg/kg			
LD50 dermal rabbit	> 5010 mg/kg			
LC50 inhalation rat (mg/l)	1.68 mg/l (Exposure time: 1 h)			
ATE US (oral)	238.000 mg/kg body weight			
ATE US (vapors)	1.680 mg/l/4h			
ATE US (dust, mist)	1.680 mg/l/4h			

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Hydrogen chloride (7647-01-0)

IARC group 3 - Not classifiable

Reproductive toxicity : Not classified Specific target organ toxicity (single exposure) : Not classified Specific target organ toxicity (repeated : Not classified exposure)

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May be irritating to the respiratory system. Overexposure may cause: Cough. Headache.

Nausea.

Symptoms/injuries after skin contact : Causes (severe) skin burns.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May be harmful if swallowed.

Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : May be incinerated. Dispose in a safe manner in accordance with local/national regulations.

Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 1800 DOT NA no. UN1800

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Octadecyltrichlorosilane

Department of Transportation (DOT) Hazard

Classes

: 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : None DOT Packaging Non Bulk (49 CFR 173.xxx) : 206 DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Air transport

DOT Quantity Limitations Passenger aircraft/rail : Forbidden

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 30 L

CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

Hydrogen chloride (7647-01-0)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313		
SARA Section 302 Threshold Planning Quantity (TPQ)	500 (gas only)	
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	

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Octadecyltrichlorosilane (112-04-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Hydrogen chloride (7647-01-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Sustances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

Octadecyltrichlorosilane (112-04-9)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

n-OCTADECYLTRICHLOROSILANE, 95%(112-04-9)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	

Hydrogen chloride (7647-01-0)

U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	
Octadecyltrichlorosilane (112-04-9)				
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level

U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

Hydrogen chloride (7647-01-0)

- U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Acute
- U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Chronic
- U.S. California Toxic Air Contaminant List (AB 1807, AB 2728)
- U.S. Connecticut Hazardous Air Pollutants HLVs (30 min) U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
- U.S. Delaware Accidental Release Prevention Regulations Sufficient Quantities
- U.S. Delaware Accidental Release Prevention Regulations Threshold Quantities
- U.S. Delaware Accidental Release Prevention Regulations Toxic Endpoints
- U.S. Delaware Pollutant Discharge Requirements Reportable Quantities
- U.S. Florida Essential Chemicals List
- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Acceptable Ambient Concentrations
- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Emission Levels (ELs)
- U.S. Idaho Occupational Exposure Limits Ceilings
- U.S. Illinois Toxic Air Contaminants
- U.S. Louisiana Reportable Quantity List for Pollutants
- U.S. Maine Air Pollutants Hazardous Air Pollutants
- U.S. Massachusetts Allowable Ambient Limits (AALs)
- U.S. Massachusetts Allowable Threshold Concentrations (ATCs)
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 2
- U.S. Massachusetts Oil & Hazardous Material List Reportable Quantity

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Hydrogen chloride (7647-01-0)

- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 2
- U.S. Massachusetts Right To Know List
- U.S. Massachusetts Threshold Effects Exposure Limits (TELs) U.S. Massachusetts Toxics Use Reduction Act
- U.S. Michigan Occupational Exposure Limits Ceilings
- U.S. Michigan Polluting Materials List
- U.S. Michigan Process Safety Management Highly Hazardous Chemicals
- U.S. Minnesota Chemicals of High Concern
- U.S. Minnesota Hazardous Substance List
- U.S. Minnesota Permissible Exposure Limits Ceilings
- U.S. New Hampshire Regulated Toxic Air Pollutants Ambient Air Levels (AALs) 24-Hour
- U.S. New Hampshire Regulated Toxic Air Pollutants Ambient Air Levels (AALs) Annual
- U.S. New Jersey Discharge Prevention List of Hazardous Substances
- U.S. New Jersey Environmental Hazardous Substances List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. New Jersey Special Health Hazards Substances List
- U.S. New Jersey TCPA Extraordinarily Hazardous Substances (EHS)
 U.S. New York Occupational Exposure Limits Ceilings
- U.S. New York Reporting of Releases Part 597 List of Hazardous Substances
- U.S. North Carolina Control of Toxic Air Pollutants
- U.S. North Dakota Air Pollutants Guideline Concentrations 1-Hour
- U.S. Ohio Accidental Release Prevention Threshold Quantities
- U.S. Ohio Extremely Hazardous Substances Threshold Quantities
- U.S. Oregon Permissible Exposure Limits Ceilings
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) List
- U.S. Rhode Island Air Toxics Acceptable Ambient Levels 1-Hour
- U.S. Rhode Island Air Toxics Acceptable Ambient Levels Annual
- U.S. South Carolina Toxic Air Pollutants Maximum Allowable Concentrations
- U.S. South Carolina Toxic Air Pollutants Pollutant Categories
- U.S. Tennessee Occupational Exposure Limits Ceilings
- U.S. Texas Effects Screening Levels Long Term
- U.S. Texas Effects Screening Levels Short Term
- U.S. Vermont Permissible Exposure Limits Ceilings
- U.S. Washington Permissible Exposure Limits Ceilings
- U.S. Wisconsin Hazardous Air Contaminants All Sources Emissions From Stack Heights 25 Feet to Less Than 40 Feet
- U.S. Wisconsin Hazardous Air Contaminants All Sources Emissions From Stack Heights 40 Feet to Less Than 75 Feet
- U.S. Wisconsin Hazardous Air Contaminants All Sources Emissions From Stack Heights 75 Feet or Greater
- U.S. Wisconsin Hazardous Air Contaminants All Sources Emissions From Stack Heights Less Than 25 Feet
- U.S. Wyoming Process Safety Management Highly Hazardous Chemicals

Octadecyltrichlorosilane (112-04-9)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. New Jersey Special Health Hazards Substances List
- U.S. Pennsylvania RTK (Right to Know) List

SECTION 16: Other information

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases::

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	Eye Dam. 1	Serious eye damage/eye irritation Category 1			
	Skin Corr. 1A	Skin corrosion/irritation Category 1A			
	Skin Corr. 1B	Skin corrosion/irritation Category 1B			
	H314	Causes severe skin burns and eye damage			
	H318	Causes serious eye damage			

HMIS III Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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Flammability : 1 Slight Hazard Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

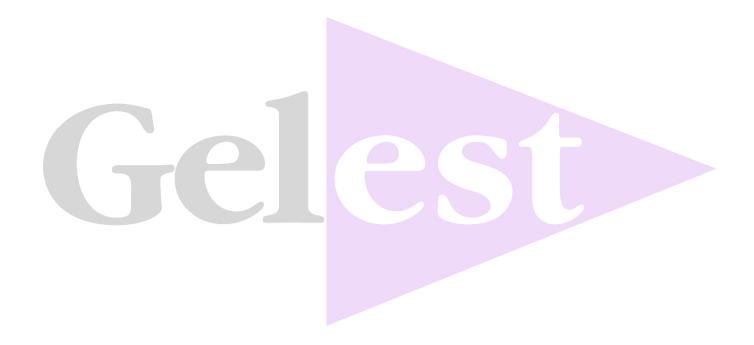
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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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