



# TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE

## Safety Data Sheet OMPH066

Date of issue: 08/20/2015

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Version: 2.0

### SECTION 1: Identification

#### 1.1. Product identifier

Product name	: TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE
Product code	: OMPH066
Product form	: Substance
Physical state	: Liquid
Formula	: C32H68ClP
Synonyms	: TRIHEXYLTETRADECYLPHOSPHONIUM CHLORIDE PHOSPHONIUM, TRIHEXYLTETRADECYL-, CHLORIDE
Chemical family	: PHOSPHORUS COMPOUND

#### 1.2. Recommended use of the chemical and restrictions on use

Recommended use	: Chemical intermediate For research use only
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#### 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](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

#### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Acute toxicity (oral) Category 4	H302
Skin corrosion/irritation Category 1B	H314
Serious eye damage/eye irritation Category 1	H318
Full text of H statements	: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US)



GHS05

GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H302 - Harmful if swallowed  
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  
P264 - Wash hands thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P301 + P330 + P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P301 + P312 - If swallowed: Call a doctor if you feel unwell  
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  
P310 - Immediately call a doctor  
P321 - Specific treatment (see first aid instructions on this label)  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/container to licensed waste disposal facility

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### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Substance type : Mono-constituent  
Name : TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE  
CAS No : 258864-54-9

Name	Product identifier	%	GHS-US classification
Tetradecyl(trihexyl)phosphonium chloride	(CAS No) 258864-54-9	95 - 100	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixture

Not applicable

### 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 victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

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 immediate 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 cause irritation to the respiratory tract.

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

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

Symptoms/injuries after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 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. Alcohol-resistant foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### 5.3. Advice for firefighters

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

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

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

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### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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

### 6.4. Reference to other sections

No additional information available

## 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 contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store locked up.

Incompatible materials : Strong oxidizing agents.

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 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 : Rubbers. Neoprene or nitrile rubber gloves.

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

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. 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. Viscous.

Molecular mass : 519.31 g/mol

Color : No data available

Odor : No data available

Odor threshold : No data available

Refractive index : 1.4818

pH : No data available

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

Melting point : -40 °C

Freezing point : No data available

Boiling point : > 200 °C

Flash point : 118 °C

Auto-ignition temperature : 375 °C

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : 0.895

Solubility : Slightly. Soluble in water.

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Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2250 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion 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.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon dioxide. Phosphorus oxides. Tributylphosphine oxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

#### TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE (258864-54-9)

ATE US (oral)	500.000 mg/kg body weight
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#### Tetradecyl(trihexyl)phosphonium chloride (258864-54-9)

LD50 oral rat	~ 500 - 2000 mg/kg
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ATE US (oral)	500.000 mg/kg body weight
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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

negative Ames test for mutagenicity reported

Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Signs of toxicity include staggered gait, loss of righting reflex and decrease in spontaneous activity and reactivity.

Symptoms/injuries after inhalation : May cause irritation to the respiratory tract.

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

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

Symptoms/injuries after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Reason for classification : Expert judgment

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### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 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 effects from this product.  
GWPmix comment : No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Waste disposal recommendations : 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) : 1760  
DOT NA no. : UN1760

#### 14.2. UN proper shipping name

Transport document description : UN1760 Corrosive liquids, n.o.s. (TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE), 8, II  
Proper Shipping Name (DOT) : Corrosive liquids, n.o.s.  
(TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE)  
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Packaging Exceptions (49 CFR 173.xxx) : 154  
DOT Symbols : G - Identifies PSN requiring a technical name

#### 14.3. Additional information

Emergency Response Guide (ERG) Number : 154  
Other information : No supplementary information available.

#### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded  
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

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### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L  
(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

#### TETRADECYL(TRIHEXYL)PHOSPHONIUM CHLORIDE (258864-54-9)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States

#### Tetradecyl(trihexyl)phosphonium chloride (258864-54-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

#### Tetradecyl(trihexyl)phosphonium chloride (258864-54-9)

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

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Full text of H-phrases::

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

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.: Chemical 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; GHS: The Globally Harmonized System of Classification and Labelling.

### HMIS III Rating

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

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 08/20/2015 Revision date: 10/21/2016 Version: 2.0

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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