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

1.1. Product identifier
Product form: Mixture
Physical state: Liquid
Product name: PLATINUM-DIVINYLTETRAMETHYLDISILOXANE COMPLEX in xylene
Product code: SIP6831.2
Formula: C24H54O3Pt2Si6
Synonyms: KARSTEDT CATALYST; DIETHENYLTETRAMETHYLDISILOXANE-PLATINUM COMPLEX
Chemical family: ORGANOSILOXANE

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)
Flam. Liq. 3 H226
Acute Tox. 4 (Dermal) H312
Skin Irrit. 2 H315
Eye Irrit. 2A H319
STOT SE 3 H335
STOT RE 2 H373
Aquatic Acute 1 H400

Full text of H-phrases: see section 16

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US):

Signal word (GHS-US): Warning
Hazard statements (GHS-US):
H226 - Flammable liquid and vapor
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life

Precautionary statements (GHS-US):
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P210 - Keep away from heat, open flames, sparks. - No smoking
P240 - Ground/bonded container and receiving equipment
P241 - Use explosion-proof electrical equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe vapor
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P303+P361+P353 - If on skin (or hair); take off immediately all contaminated clothing. rinse skin with water/shower
P332+P337+P353 - If skin irritation persists: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical to extinguish
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Keep in a cool place
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

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>(CAS No) 1330-20-7</td>
<td>&gt; 90</td>
<td>Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400</td>
</tr>
<tr>
<td>Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes</td>
<td>(CAS No) 68478-92-2</td>
<td>&lt; 10</td>
<td>Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

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 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 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 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 damage to organs.
Symptoms/injuries after inhalation: May cause respiratory irritation. May be harmful if inhaled.
Symptoms/injuries after skin contact: Causes skin irritation. Harmful in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/injuries after eye contact: Causes serious eye irritation.
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

5.2. Special hazards arising from the substance or mixture
Fire hazard: Flammable liquid and vapor. 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: Use water spray or fog for cooling exposed containers. 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

General measures: Remove ignition sources. Use special care to avoid static electric charges.

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.

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 breathing vapors. Provide good ventilation in process area to prevent accumulation of vapors. Take precautionary measures against static discharge. Containers must be properly grounded before beginning transfer. Use only in well ventilated areas. Use only non-sparking tools.

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

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.

Storage conditions: Keep container tightly closed.

Incompatible materials: 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

<table>
<thead>
<tr>
<th>Compound</th>
<th>ACGIH TWA (ppm)</th>
<th>USA ACGIH</th>
<th>USA OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene (1330-20-7)</td>
<td>100 ppm</td>
<td>100 ppm</td>
<td>435 mg/m³</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>150 ppm</td>
<td></td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>435 mg/m³</td>
<td></td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>100 ppm</td>
<td></td>
</tr>
</tbody>
</table>

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. 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 organic vapor (black cartridge) respirator.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Hazy liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>474.68 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Orange</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic. Mild.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4954</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>138 °C - initial (xylene)</td>
</tr>
<tr>
<td>Flash point</td>
<td>38 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable liquid and vapor</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>7 mm Hg @ 21°C (xylene)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.8852</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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

Will generate hydrogen gas in presence of hydridosilanes and protic materials such as water and alcohol.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products


SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Dermal: Harmful in contact with skin.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (dermal)</td>
<td>1888.889 mg/kg body weight</td>
</tr>
<tr>
<td>Xylene (1330-20-7)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>3500 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>1700 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>29.08 mg/l/4h</td>
</tr>
</tbody>
</table>
PLATINUM-DIVINYLTETRAMETHYLDISILOXANE COMPLEX in xylene
Safety Data Sheet

**Xylene (1330-20-7)**

<table>
<thead>
<tr>
<th>ATE US (oral)</th>
<th>3500.000 mg/kg body weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (dermal)</td>
<td>1700.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>29.080 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>29.080 mg/l/4h</td>
</tr>
<tr>
<td>Additional information</td>
<td>LCLo Inhalation man: 10,000ppm/6H</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
- Causes skin irritation.

**Serious eye damage/irritation**
- Causes serious eye irritation.
  - Eye Irritation - rabbit: 5 mg/24H: severe (xylene)

**Respiratory or skin sensitization**
- Not classified

**Germ cell mutagenicity**
- Not classified

**Carcinogenicity**
- Not classified

**Xylene (1330-20-7)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>3 - Not classifyable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
  - Xylene has been found to have experimental reproductive effects. |
| Specific target organ toxicity (single exposure) | May cause respiratory irritation. |
| Specific target organ toxicity (repeated exposure) | May cause damage to organs through prolonged or repeated exposure. |
  - May cause damage to organs through prolonged or repeated exposure |
| Aspiration hazard | Not classified |
| Symptoms/injuries after inhalation | May cause respiratory irritation. May be harmful if inhaled. |
| Symptoms/injuries after skin contact | Causes skin irritation. Harmful in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. |
| Symptoms/injuries after eye contact | Causes serious eye irritation. |
| Symptoms/injuries after ingestion | May be harmful if swallowed. |

**SECTION 12: Ecological information**

**12.1. Toxicity**

<table>
<thead>
<tr>
<th>Xylene (1330-20-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>3.82 mg/l (Exposure time: 48 h - Species: water flea)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>2.661 - 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

No additional information available

**12.3. Bioaccumulative potential**

**Xylene (1330-20-7)**

| BCF fish 1 | 0.6 - 15 |
| Log Pow | 2.77 - 3.15 |

**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 : Return to manufacturer for precious metal recovery.
Ecology - waste materials : Avoid release to the environment.

**SECTION 14: Transport information**

**14.1. UN number**

UN-No.(DOT) : 1307
DOT NA no. : UN1307
14.2. UN proper shipping name

Proper Shipping Name (DOT) : Xylenes
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid

Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
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 : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Air transport
DOT Quantity Limitations Passenger aircraft/rail : 60 L (49 CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Xylene (1330-20-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on United States SARA Section 313
SARA Section 313 : Emission Reporting 1.0 %

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Xylene (1330-20-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECS (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
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on INSO (Mexican national Inventory of Chemical Substances)
Listed on Turkish inventory of chemical

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECS (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 Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

PLATINUM-DIVINYL-1,3,3-tetramethyldisiloxane complex in xylene(68478-92-2)

<table>
<thead>
<tr>
<th>Regulation</th>
<th>State</th>
<th>List</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PLATINUM-DIVINYL TETRAMETHYLDISILOXANE COMPLEX in xylene

Safety Data Sheet

SECTION 16: Other information

Indication of changes : Changed classification. Applied changes to section 4. Applied minor changes to precautionary statements. Changed product form from substance to mixture.

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; mmHg: 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.

Full text of H-phrases:

- Acute Tox. 4 (Dermal) : Acute toxicity (dermal) Category 4
- Aquatic Acute 1 : Hazardous to the aquatic environment - Acute Hazard Category 1
- Eye Irrit. 2A : Serious eye damage/eye irritation Category 2A
- Flam. Liq. 3 : Flammable liquids Category 3
- Skin Irrit. 2 : Skin corrosion/irritation Category 2
- STOT RE 2 : Specific target organ toxicity (repeated exposure) Category 2
- STOT SE 3 : Specific target organ toxicity (single exposure) Category 3
- H226 : Flammable liquid and vapor
- H312 : Harmful in contact with skin
- H315 : Causes skin irritation
- H319 : Causes serious eye irritation
- H335 : May cause respiratory irritation
- H373 : May cause damage to organs through prolonged or repeated exposure
- H400 : Very toxic to aquatic life

HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 01/09/2015 Revision date: 04/24/2015 Version: 2.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
PLATINUM-DIVINYLTETRAMETHYLDISILOXANE COMPLEX in xylene
Safety Data Sheet

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranted, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2015 Gelest Inc. Morrisville, PA 19067