

**ZIRCONIUM METHACRYLATE, 95%**

Safety Data Sheet CXZR050

Date of issue: 06/03/2015

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-----------------|-----------------------------------------------------|
| Product form | : Substance |
| Physical state | : Solid |
| Substance name | : ZIRCONIUM METHACRYLATE, 95% |
| Product code | : CXZR050 |
| Formula | : C ₁₆ H ₂₀ O ₈ Zr |
| Synonyms | : METHACRYLIC ACID, ZIRCONIUM SALT |
| Chemical family | : METAL COMPOUND |

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)**

Eye Irrit. 2A H319

Full text of H-phrases: see section 16

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US)



GHS07

| | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal word (GHS-US) | : Warning |
| Hazard statements (GHS-US) | : H319 - Causes serious eye irritation |
| Precautionary statements (GHS-US) | : P280 - Wear protective gloves/protective clothing/eye protection/face protection P264 - Wash hands thoroughly after handling P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337+P313 - If eye irritation persists: Get medical advice/attention |

2.3. Other hazards

| | |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other hazards not contributing to the classification | : Material may form zirconium oxides or zirconate polymers on the skin, eyes or in the lungs. Prolonged exposure to zirconium compounds can induce formation of granulomatous lesions in the lungs or on the skin. |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients**3.1. Substance**

| | |
|----------------|-------------------------------|
| Substance type | : Mono-constituent |
| Name | : ZIRCONIUM METHACRYLATE, 95% |
| CAS No | : 67893-01-0 |
| EC no | : 267-604-6 |

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| Name | Product identifier | % | Classification (GHS-US) |
|------------------------|---------------------|------|-------------------------|
| Zirconium methacrylate | (CAS No) 67893-01-0 | > 95 | Eye Irrit. 2A, H319 |

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 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. |
| 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 after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : No information available. |

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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|-------------|-------------------------------------------------------------------------------------------------------------------------|
| 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

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| 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 contact with skin and eyes. Do not breathe dust. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

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|----------------------|----------------------------------------------|
| Protective equipment | : Equip cleanup crew with proper protection. |
|----------------------|----------------------------------------------|

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|-------------------------------------------------------------------|
| Methods for cleaning up | : 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

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|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautions for safe handling | : Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Avoid dust formation. |
| 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 | : Water. |

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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

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 : 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 dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Solid.

Molecular mass : 431.55 g/mol

Color : Off-white.

Odor : No data available

Odor threshold : No data available

Refractive index : No data available

pH : No data available

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

Melting point : 225 - 230 °C decomposes

Freezing point : No data available

Boiling point : No data available

Flash point : > 110 °C

Auto-ignition temperature : No data available

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 : No data available

VOC content : < 5 %

Solubility : Insoluble in water. Reacts with water.
Organic solvent:isopropanol, THF

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

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.

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10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with water.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Water.

10.6. Hazardous decomposition products

Organic acid vapors. Zirconium oxide fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|----------------------------------------------------|--------------------------------------------------|
| Acute toxicity | : Not classified |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/injuries after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : No information available. |
| Reason for classification | : Expert judgment |

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

| | |
|------------------------------|------------------------------------------------------|
| 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 | : Dispose of solid materials or residues at a licensed site. Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable

14.3. Additional information

| | |
|-------------------|-------------------------------------------|
| Other information | : No supplementary information available. |
|-------------------|-------------------------------------------|

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Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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|---------------------------------------------------------------------------|
| Zirconium methacrylate (67893-01-0) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

15.2. International regulations

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|----------------------------------------------------------------------------------------------------|
| Zirconium methacrylate (67893-01-0) |
| Listed on the Canadian NDSL (Non-Domestic Substances List) |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

15.3. US State regulations

| | |
|---------------------------------------------------------------------|----|
| ZIRCONIUM METHACRYLATE, 95%(67893-01-0) | |
| 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 |

| | | | | |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| Zirconium methacrylate (67893-01-0) | | | | |
| 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 | |

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.: 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::

| | |
|---------------|-----------------------------------------------|
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| H319 | Causes serious eye irritation |

HMIS III Rating

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