|  |  |
| --- | --- |
| Metro Welding Supply Corp. logo | Safety Data Sheet  Silane |
|  |

# Section 1: Product and Company Identification

**Metro Welding Supply Corp.**

12620 Southfield Road
  
Detroit, MI 48223
  
(313) 834-1660 [phone]
  
(313) 835-3562 [fax]
  
http://www.metrowelding.com/

Product Code: Silane

# Section 2: Hazards Identification



**Danger**

## Hazard Classification:

Eye Effects (Category 2.B)

Flammable (Category 1)

Flammable Aerosol (Category 1)

Gases Under Pressure

## Hazard Statements:

Causes eye irritation

Contains gas under pressure; may explode if heated

Extremely flammable aerosol

Extremely flammable gas

## Precautionary Statements

**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wash thoroughly after handling.

Pressurized container: Do not pierce or burn, even after use.

Do not spray on an open flame or other ignition source.

**Response:**

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Eliminate all ignition sources if safe to do so.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

**Storage:**

Protect from sunlight.

Store in well-ventilated place.

Do not expose to temperatures exceeding 50C/122F.

# Section 3: Composition/Information on Ingredients

| CAS # |
| --- |
| 7803-62-5 |

| Chemical Substance | Chemical Family | Trade Names |
| --- | --- | --- |
| SILANE | hydrides | MONOSILANE (SIH4); SILICANE; SILICON HYDRIDE (SIH4); SILICON TETRAHYDRIDE; SILICON HYDRIDE; MONOSILANE; STCC 4920168; UN 2203; H4Si |

# Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
| --- | --- | --- | --- | --- |
| Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse. | Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | If a large amount is swallowed, get medical attention. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention. | None |

# Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
| --- | --- | --- |
| Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray. | Pyrophoric or shock-sensitive, dark-colored solids may be formed due to incomplete oxidation | * Any self-contained breathing apparatus with a full facepiece. * Any self-contained breathing apparatus with a full facepiece. |

# Section 6: Accidental Release Measures

| Personal Precautions | Environmental Precautions | Methods for Containment |
| --- | --- | --- |
| Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. | Avoid heat, flames, sparks and other sources of ignition. | Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. |

| Methods for Cleanup | Other Information |
| --- | --- |
| Evacuate area. Contact emergency personnel. | None |

# Section 7: Handling and Storage

| Handling | Storage |
| --- | --- |
| Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Store above -110 C. Store in a tightly closed container. | May ignite on exposure to air. Keep separated from incompatible substances. |

# Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines |
| --- |
| SILANE: 5 ppm (7 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 5 ppm ACGIH TWA 5 ppm (7 mg/m3) NIOSH recommended TWA 10 hour(s). |

## Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection | Skin Protection | Respiratory Protection |
| --- | --- | --- |
| Wear helmet with full face shield and fire-proof hood to prevent any possibility of burns if in contact with this substance. | Wear appropriate chemical resistant clothing. | Any self-contained breathing apparatus with a full facepiece. |

## General Hygiene considerations

* Avoid breathing vapor or mist
* Avoid contact with eyes and skin
* Wash thoroughly after handling and before eating or drinking

# Section 9: Physical and Chemical Properties

| Physical State | Appearance | Color | Change in Appearance | Physical Form | Odor | Taste |
| --- | --- | --- | --- | --- | --- | --- |
| Gas | Clear | Colorless | N/A | Gas | Unpleasant odor | N/A |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
| --- | --- | --- | --- | --- | --- |
| Not available | Not available | Not available | Not available | 1 | 0.01 |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | pH | Odor Threshold | Evaporation Rate | Viscosity |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| -170 F (-112 C) | -301 F (-185 C) | Not available | 1.3 (Air=1) | Not applicable | Insoluble | Not applicable | Not available | Not applicable | 0.01092 cP @ 25 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
| --- | --- | --- | --- | --- | --- | --- |
| 32.12 | SI-H4 | 1.342 g/L @ 20 C | Not available | 100% | 1 | Insoluble: Not available |

# Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
| --- | --- | --- |
| May ignite on exposure to air. | May ignite on exposure to air. | Metal salts, bases, halogens, oxidizing materials |

| Hazardous Decomposition Products | Possibility of Hazardous Reactions |
| --- | --- |
| Silicon, hydrogen. Thermal decomposition in the presence of air produces hydrogen gas, silicon, silicon oxides and unidentified dark-colored solid substances that may be pyrophoric or shock-sensitive. | Will not polymerize. |

# Section 11: Toxicology Information

## Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
| --- | --- | --- |
| LC50, 1 hr, rat = 19,200 ppm | Not available | Irritation, nausea, headache |

| Eye Irritation | Skin Irritation | Sensitization |
| --- | --- | --- |
| Irritation , blurred vision | Liquid: irritation, blisters | Respiratory tract irritation, skin irritation, eye irritation |

## Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
| --- | --- | --- | --- |
| Not available | Available. | Not available | No data |

# Section 12: Ecological Information

## Fate and Transport

|  |  |  |  |
| --- | --- | --- | --- |
| Eco toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
| Fish toxicity: Not available  Invertibrate toxicity: Not available  Algal toxicity: Not available  Phyto toxicity: Not available  Other toxicity: Not available | Not available | Not available | Not available |

# Section 13: Disposal Considerations

|  |
| --- |
| Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations. |

# Section 14: Transportation Information

## U.S. DOT 49 CFR 172.101

| Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Silane | UN2203 | 2.1 | Not applicable | 2.1 | Forbidden | Forbidden | N/A |

## Canadian Transportation of Dangerous Goods

|  |  |  |  |
| --- | --- | --- | --- |
| Shipping Name | UN Number | Class | Packing Group / Risk Group |
| Silane, compressed | UN2203 | 2.1 | Not applicable |

# Section 15: Regulatory Information

## U.S. Regulations

|  |  |  |
| --- | --- | --- |
| CERCLA Sections | SARA 355.30 | SARA 355.40 |
| Not regulated. | Not regulated. | Not regulated. |

## SARA 370.21

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Acute | Chronic | Fire | Reactive | Sudden Release |
| Yes | No | Yes | Yes | Yes |

## SARA 372.65

|  |
| --- |
| Not regulated. |

## OSHA Process Safety

|  |
| --- |
| Not regulated. |

## State Regulations

|  |
| --- |
| CA Proposition 65 |
| Not regulated. |

## Canadian Regulations

|  |
| --- |
| WHMIS Classification |
| AB |

## National Inventory Status

|  |  |  |
| --- | --- | --- |
| US Inventory (TSCA) | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
| Listed on inventory. | Not listed. | Not determined. |

# Section 16: Other Information

|  |
| --- |
| NFPA Rating |
| HEALTH=2 FIRE=4 REACTIVITY=3 |

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard