

Safety Data Sheet



1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT NAME: 1127

MANUFACTURER: Selectrode Industries, Inc.
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2. HAZARD IDENTIFICATION:

Emergency Overview: This product is normally not considered hazardous as shipped. Avoid eye contact or inhalation of dust from the product. When this product is used in a welding process, the most important hazards are welding fumes, heat, radiation and electric shock.

Classification of the Substance/Mixture

CLP/GHS Classification (1272/2008):

Skin Sensitization, Category 1

Carcinogenicity, Category 2

Specific Target Organ Toxicity (Repeated Exposure), Category 1

EU Classification (67/548/EEC):

Toxic (T), Harmful (Xn), Irritant (Xi), Carcinogen Category 3, R48/23, R40, R43

Hazardous Classification per 29CFR 1910.1200 (Rev. July 1, 2012):

Skin Sensitization, Category 1

Carcinogenicity, Category 2

Specific Target Organ Toxicity (Repeated Exposure), Category 1

Labelling:

Symbols:



Signal Word: Danger

Hazard Statements:

H317 – May cause an allergic skin reaction.

H351 – Suspected of causing cancer.

H372 – Cause damage to respiratory system, eyes, brain and nervous system through prolonged or repeated exposure.

Precautionary Statements:

P201 – Obtain special instructions before use.

P202 – Do not handle until all safety precautions have been read and understood.

P210 – Keep away from heat/sparks/open flames/hot surfaces – No smoking.

P260 – Do not breathe dust/fume/gas/mist/vapours/spray.

P264 – Wash skin and hair thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P272 – Contaminated work clothing should not be allowed out of the workplace.

P280 – Wear protective gloves/eye protection/face protection.

P281 – Use personal protective equipment as required.

P302+P352 – IF ON SKIN: Wash with plenty of soap and water.

P333+P313 – IF skin irritation or rash occurs: Get medical advice/attention.

**Safety
Data
Sheet**



P308+P313 – IF exposed or concerned: Get medical advice/attention.

P314 – Get medical advice/attention if you feel unwell.

P363 – Wash contaminated clothing before reuse.

P405 – Store locked up.

P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

| Chemical Identity | CAS # | Range % | OSHA PEL (mg/m3) | ACGIH-TLV (mg/m3) | Carcinogenicity | EU Classification (67/548/EEC) | CLP/GHS Classification (1272/2008) | Hazardous Classification per 29CFR 1910.1200 (Rev. July, 2012) |
|-------------------|------------|---------|------------------|-------------------|-----------------|--|---|---|
| Calcium Carbonate | 1317-65-3 | 1-11 | 5 (as CaO) | 10 | No | Not Dangerous | Not Hazardous | Not Hazardous |
| #Copper | 7440-50-8 | 15-25 | 1.0 | 1.0 | No | (F) R11 (N) R50 | (H228) Flam. Sol. 1 (H400) Aquatic Acute 1 | (H228) Flam. Sol. 1 (H400) Aquatic Acute 1 |
| #Manganese | 7439-96-5 | 1-11 | 5 | 1 | No | (Xn) R48 | (H373) STOT RE 2 | (H373) STOT RE 2 |
| #Nickel | 7440-02-0 | 40-50 | 1 | 1 | Yes | Carc. Cat. 3 (Xn) R40 (Xi) R43 (T) R48/23 | (H317) Skin Sens. 1 (H351) Carc. 2 (H372) STOT RE 1 | (H317) Skin Sens. 1 (H351) Carc. 2 (H372) STOT RE 1 |
| Dolomite | 16389-78-9 | 1-11 | 15 | 10 | No | Not Dangerous | Not Hazardous | Not Hazardous |
| Iron Carbonate | 563-71-3 | 1-5 | 1 | 1 | No | Not Dangerous | Not Hazardous | Not Hazardous |
| Titanium | 7440-32-6 | 1-5 | NR | 10 (as TiO2) | No | Not Dangerous | Not Hazardous | Not Hazardous |
| Sodium Cryolite | 15096-52-3 | 1-11 | 2.5 (as F) | 2.5 (as F) | No | (Xn) R20 (T) R48/23/25 (N) R51/53 | (H332) Acute Tox. 4 (H372) STOT RE 1 (H411) Aquatic C. 2 | (H332) Acute Tox. 4 (H372) STOT RE 1 (H411) Aquatic C. 2 |
| #Sodium Fluoride | 7681-49-4 | 1-11 | 2.5 (as F) | 2.5 (as F) | No | (T) R25 (Xi) R36/38 | (H301) Acute Tox. 3 (H315) Skin Irrit.. 2 (H319) Eye Irrit.. 2A | (H301) Acute Tox. 3 (H315) Skin Irrit.. 2 (H319) Eye Irrit.. 2A |
| Sodium Silicate | 1344-09-3 | 1-11 | NR | 5 | No | (C) R34 (Xi) R37 | (H314) Skin Corr. 1B (H335) STOT SE 3 | (H314) Skin Corr. 1B (H335) STOT SE 3 |

Important This section covers the materials of which the products manufactured. The fumes and gases produced during normal use of this product are covered in section 10. The term "Hazardous" in "Hazardous Material" should be interpreted as a term required and defined in OSHA Hazard Communication Standard 29CFR 1910-1200 and it does not necessarily imply the existence of hazard. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

Safety Data Sheet



4. FIRST AID MEASURES:

Inhalation: Remove to fresh air immediately or administer oxygen. Get medical attention immediately.

Skin: Flush skin with large amounts of water. If irritation develops and persists, get medical attention.

Eye: Flush eyes with water for at least 15 minutes. Get medical attention.

Ingestion: Obtain medical attention immediately if ingested. Rinse mouth.

Electric Shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. Immediately contact a physician.

5. FIRE-FIGHTING MEASURES:

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning material and fire situation.

Unsuitable Extinguishing Media: Not applicable

Specific Hazards Arising From Chemical: Arcs and sparks can ignite combustibles and flammable products. Copper oxides, manganese/manganese oxides, nickel/nickel oxides, aluminium oxides, titanium/titanium oxides, hydrogen fluoride, sodium oxides, silicon oxides

Protective Equipment: Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Refer to section 8.

Environment Precautions: Refer to section 13.

Cleaning Measures: Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle with care to avoid stings or cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.

Conditions for Safe Storage: Store in dry place in closed packages. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION:

Engineering Controls: Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep work place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Exposure limits: Use industrial hygiene equipment to ensure that exposure does not exceed applicable national exposure limits. The limits defined under section 3 can be used as guidance. Unless noted, all values are for 8 hour time weighted average. For information about welding fume analysis refer to section 10.

Biological limits: No available data

Personal protection:

Respiratory protection: Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventilation is not sufficient to keep exposure values within safe limits.

Hands protection: Wear appropriate gloves to prevent skin contact.

EN 12477: Protection gloves for welders

**Safety
Data
Sheet**



| Requirements (EN Levels) | Type A | Type B |
|--------------------------|---------|---------|
| Abrasion (Cycles) | 2 (500) | 1 (100) |
| Cut (Factor) | 1 (1.2) | 1 (1.2) |
| Tear (Newton) | 2 (25) | 1 (10) |
| Puncture (Newton) | 2 (60) | 1 (20) |
| Burning Behaviour | 3 | 2 |
| Contact Heat | 1 | 1 |
| Convective Heat | 2 | - |
| Small Splashes | 3 | 2 |
| Dexterity | 1 (11) | 4 (6.5) |

Type B gloves are recommended when high dexterity is required as for TIG welding, while type A gloves are recommended for other welding processes. The contact temp (°C) is 100 and the threshold time (seconds) >15.

Eyes protection: Welder's helmet or face shield with colour absorbing lenses. Shield and filter to provide protection from harmful UV radiation, infra red and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin protection: Heat-resistant protective clothing. Wear safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry. Clothing should be selected to suit the level, duration and purpose of the welding activity.

| Class 1 | |
|---------------------------|---|
| Impact of Spatter | 15 Drops |
| Heat Transfer (radiation) | RHTI 24 ≥ 7 seconds |
| Process | <p>Manual welding with light formation of spatter and drops</p> <ul style="list-style-type: none"> • Gas Welding • TIG Welding • MIG Welding • Micro plasma welding • Brazing • Spot Welding • MMA Welding (with rutile-covered electrode) |
| Environmental Conditions | <p>Operation of machines</p> <ul style="list-style-type: none"> • Oxygen cutting machines • Plasma cutting machines • Resistance welding machines • Machines for thermal spraying • Bench welding |

| Class 2 | |
|---------------------------|--|
| Impact of Spatter | 25 Drops |
| Heat Transfer (radiation) | RHTI 24 ≥ 16 seconds |
| Process | <p>Manual welding with heavy formation of spatter and drops</p> <ul style="list-style-type: none"> • MMA welding (with basic or cellulose-covered electrodes) • MAG welding (with CO2 or mixed gases) • MIG Welding (with high current) • Self shielded flux core arc welding • Plasma cutting • Gouging • Oxygen cutting • Thermal spraying |

**Safety
Data
Sheet**



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| Environmental Conditions | Operation of machines <ul style="list-style-type: none"> • In confined spaces • At overhead welding/cutting or in comparable constrained positions |
|---------------------------------|---|

9. PHYSICAL AND CHEMICAL PROPERTIES:

- Appearance:** Solid.
- Color:** Grey
- Odour:** Odourless
- Odour Threshold:** Not Available
- pH Value:** Not Available
- Melting Point/Melting Range:** 1560 - 2000° F, 850 - 1100° C
- Freezing Point:** Not Available
- Boiling Point/Boiling Range:** Not Available
- Flash point:** Not Available
- Evaporation Rate:** Not Available
- Self-in flammability:** Not Available
- Explosion limits:** Not Available
- Vapour pressure:** Not Available
- Vapour density:** Not Available
- Density at 20°C:** Not Available
- Relative density:** 6-9 g/cm³
- Solubility:** Insoluble in water.
- Partition coefficient:** Not Available
- Auto-ignition temperature:** Not Available
- Decomposition temperature:** Not Available
- Other Information:** No available data.

10. STABILITY AND REACTIVITY:

- Chemical Stability:** This product is stable under normal conditions.
- Hazardous Reactions:** Contact with chemical substances like acids or strong bases cause generation of gas.
- Conditions to Avoid:** Not applicable.
- Incompatible Materials:** Reacts with acid.
- Hazardous Decomposition Products:** When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of the material listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in section 3. Manganese has a low exposure limit, in some countries that may be easily exceeded. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

11. TOXICOLOGICAL INFORMATION:

- Signs and Symptoms of Overexposure:** Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contaminants and processes. The Internal Agency for Research on Cancer has classified welding fumes as possible carcinogenic to humans (Group 2B).
- Acute Effects:** Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. May cause sensitisation by skin contact

| |
|---|
| LD/LC50 Values that are relevant for classification |
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**Safety
Data
Sheet**



| | | |
|------------------------------------|------|--------------------|
| Calcium Carbonate 1317-65-3 | | |
| Oral | LD50 | >2000 mg/kg (rat) |
| Dermal | LD50 | >2000 mg/kg (rat) |
| Inhalation | LC50 | >3 mg/L/4hr. (rat) |

| | | |
|--|------|-----------------------|
| LD/LC50 Values that are relevant for classification | | |
| Copper 7440-50-8 | | |
| Oral | LD50 | >2000 mg/kg (rat) |
| Dermal | LD50 | >2000 mg/kg (rat) |
| Inhalation | LC50 | >5.11 mg/L/4 hr (rat) |
| Intraperitoneal | LD50 | 3.5 mg/kg (mouse) |

| | | |
|--|------|------------------|
| LD/LC50 Values that are relevant for classification | | |
| Manganese 7439-96-5 | | |
| Oral | LD50 | 9000 mg/kg (rat) |

| | | |
|--|------|-----------------------|
| LD/LC50 Values that are relevant for classification | | |
| Nickel 7440-02-0 | | |
| Oral | LD50 | >9000 mg/kg (rat) |
| Inhalation | LC50 | >10.2 mg/L/1 hr (rat) |

| | | |
|--|------|-------------------|
| LD/LC50 Values that are relevant for classification | | |
| Titanium 7440-32-6 | | |
| Oral | LD50 | >5000 mg/kg (rat) |

| | | |
|--|------|--------------------------------|
| LD/LC50 Values that are relevant for classification | | |
| Sodium Fluoride 7681-49-4 | | |
| Oral | LD50 | 31 mg/kg (rat) |
| Oral | LD50 | 44 mg/kg (mouse) |
| Oral | LD50 | 200 mg/kg (rabbit) |
| Oral | LD50 | 110 mg/kg (wild bird) |
| | LC50 | 200 mg/l (96h) (rainbow trout) |

| | | |
|--|------|-------------------|
| LD/LC50 Values that are relevant for classification | | |
| Sodium Cryolite 15096-52-3 | | |
| Oral | LD50 | >5000 mg/kg (rat) |

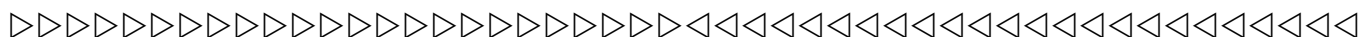
Chronic Effects: Overexposure to welding fumes may affect pulmonary function. Chronic exposure to copper may damage the liver, kidney, spleen, pancreas and brain. Overexposure to copper may damage the liver, kidney, spleen, pancreas and brain. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. Prolonged inhalation of nickel (Classified 2B by IARC and R by NTP) above safe exposure limits may cause cancer. Long term exposure to Titanium dust or fume may lead to blood disorder, lymphoma, Hodgkin's disease.

12. ECOLOGICAL INFORMATION:

Toxicity: Welding rods contain metals which are considered to be very toxic towards aquatic organisms. Finely divided welding rods are therefore considered harmful to aquatic organisms.

Persistence and Degradability: The welding rods consist of elements that can not degrade any further in the environment.

**Safety
Data
Sheet**



| Ingredient Name | Disclosure Threshold |
|-----------------|------------------------------|
| Manganese | 5 mg/m ³ |
| Nickel | 1 mg/m ³ |
| Copper | 1.0 mg/m ³ |
| Sodium Fluoride | 2.5 (as F) mg/m ³ |

16. OTHER INFORMATION:

The information in this document is believed to be correct as of the date issued. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. This information and product are furnished on the condition that the person receiving them shall make his own determinations as to the suitability of the product for his particular purpose and on the condition that he assumes the risk of his use thereof.

This Material Safety Data Sheet complies with the EC directives 91/155/EEC and 93/112/EEC, including modifications 2001/58/EC.

Complies with OSHA Communication Standard 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499

Hazard Statements:

- H228 – Flammable solid
- H301 – Toxic if swallowed.
- H314 – Causes severe skin burns and eye damage.
- H315 – Causes skin irritation.
- H317 – May cause an allergic skin reaction.
- H319 – Causes serious eye irritation.
- H332 – Harmful if inhaled.
- H335 – May cause respiratory irritation.
- H351 – Suspected of causing lung cancer.
- H372 – Causes damage to organs through prolonged or repeated exposure.
- H373 – May cause damage to organs through prolonged or repeated exposure.
- H400 – Very toxic to aquatic life
- H411 – Toxic to aquatic life with long lasting effects.

R-Phrases:

- R11 – Highly flammable
- R20 – Harmful by inhalation.
- R25 – Toxic if swallowed.
- R34 – Causes burns.
- R36/38 – Irritating to eyes and skin.
- R37 – Irritating to respiratory system.
- R40 – Limited evidence of a carcinogenic effect.
- R43 – May cause sensitization by skin contact.
- R48/23 – Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R48/23/25 – Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R50 – Very toxic to aquatic organisms
- R51/53 – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases:

- S2 – Keep out of reach of children.
- S16 – Keep away from sources of ignition – No smoking.
- S22 – Do not breathe dust.
- S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S28 – After contact with skin, wash immediately with plenty of water.
- S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

