

Super Alloy 1 Product Safety Information:

Rods:

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 and heat.

Classification of the Substance/Mixture

CLP/GHS Classification (1272/2008):

Acute Toxicity -- Inhalation, Category 2

Germ Cell Mutagenicity, Category 2

Carcinogenicity, Category 1B

Reproductive Toxicity, Category 2

Specific Target Organ Toxicity (Repeated Exposure), Category 1

Hazardous to the Aquatic Environment -- Acute Hazard, Category 1

Hazardous to the Aquatic Environment -- Long Term Hazard, Category 1

EU Classification (67/548/EEC):

Toxic (T), Harmful (Xn), Dangerous for the Environment (N), R26, R45, R48/23/25, R62, R63, R68, R50/53

Labeling:

Signal Word: Danger

Hazard Statements:

H330 – Fatal if inhaled.

H341 – Suspected of causing genetic defects.

H350 – May cause cancer.

H361 – Suspected of damaging fertility or the unborn child.

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

H400 – Very toxic to aquatic life.

H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P201 – Obtain special instructions before use.

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

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

P264 – Wash skin and hair thoroughly after handling.

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

P271 – Use only outdoors or in a well-ventilated area.

P273 – Avoid release to the environment.

P281 – Use personal protective equipment as required.

P284 – Wear respiratory protection.

P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P310 – Immediately call a POISON CENTER or doctor/physician.

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

P391 – Collect spillage.

P403+P233 – Store in a well-ventilated place. Keep container tightly closed.

P405 – Store locked up.

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

FIRST AID MEASURES:

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

Skin: Flush skin with large amounts of water and soap. 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.

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: Do not use water on molten metal. Large fires may be flooded with water from a distance.

Specific Hazards Arising From Chemical: Cadmium oxides, tin oxides, carbon oxides, zinc oxides

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

ACCIDENTAL RELEASE MEASURES:

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.

HANDLING AND STORAGE:

Precautions for Safe Handling: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk; evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids, alkalis. Dispose of according to Federal, State, Local and OSHA regulations.

Conditions for Safe Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

EXPOSURE CONTROLS/ PERSONAL PROTECTION:

Engineering Controls: The usual precautionary measures for handling chemicals should be followed. Keep away from food, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before break and at the end of the work. Store all protective clothing separately. Maintain an ergonomically appropriate working environment. Wear protective equipment. Keep unprotected persons away. Avoid causing dust.

Exposure limits: Use industrial hygiene equipment to ensure that exposure does not exceed applicable national exposure limits. Unless noted, all values are for 8 hour time weighted average.

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

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 color 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.

STABILITY AND REACTIVITY:

Chemical Stability: This product is stable under normal conditions.

Hazardous Reactions: Reactive with oxidizing agents, acids, alkalis.

Conditions to Avoid: Not applicable.

Incompatible Materials: Incompatible with Bromine, Bromine Trifluoride Chlorine, Chlorine Trifluoride + Carbon, Water + Cupric Nitrate, Sodium Peroxide, Water Vapour + Carbon Tetrachloride, Disulfur Dichloride, fused Ammonium Nitrate, Potassium Dioxide, Tellurium, Turpentine, Acids (Nitric Acid, Sulfuric Acid, Hydrochloric Acid, Acetic Acid), caustic Alkali, Iodine Bromide. In presence of water vapour, the interaction between Tin and Carbon Tetrachloride is violent. The interaction between Tin and Disulfur Dichloride is violent. Tin reacts violently with Iodine Bromide.

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 product materials 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. 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.

TOXICOLOGICAL INFORMATION:

Signs and Symptoms of Overexposure: Fumes and gases generated during use of this product, in conjunction with heating, welding, brazing or soldering procedures, can be dangerous to your health. Aggravation of pre-existing respiratory or allergic conditions may occur.

Acute Effects: Tin: May cause skin irritation. May cause eye irritation due to mechanical action. Inhalation of tin dust may cause respiratory tract and mucous membrane tract irritation due to mechanical action. It is poorly absorbed from the digestive tract. It can cause gastrointestinal tract disturbance which may be irritant or astringent on the stomach. Signs and symptoms of zinc exposure are central nervous system depression, cough, chest pain and difficulty breathing. Exposure to high airborne concentrations can cause anesthetic effects.

Cadmium: Damage to the lungs. Kidney injury may occur.

Chronic Effects: Overexposure to welding fumes may affect pulmonary function. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Excessive inhalation of zinc oxide fumes may produce symptoms known as "Zinc Shakes" which are flu-like and usually cease when the individual is removed from the source. Prolonged or repeated exposure can cause vomiting, diarrhea, lung irritation. Severe overexposure of Cadmium can result in death. Carcinogenic to humans (Cadmium) (Classified 1 by IARC and K by NTP).

ECOLOGICAL INFORMATION:

Toxicity: No available data

Persistence and Degradability: No available data

Bio accumulative Potential: No available data

Mobility in Soil: No available data

Other Adverse Effects: No available data. Do not allow undiluted product or large quantities to reach ground water, water course, or sewage systems. Do not allow product to be released in the environment without proper governmental permits.

DISPOSAL CONSIDERATIONS:

Product: For product elimination, dispose of in accordance with EPA regulations.

Package: May be disposed in approved landfills provided local regulations are observed.

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.

Safety, health and environment regulations/legislation specific for the substance or mixture: Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

Warning: Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. Electric shock can kill. Arc rays and sparks can injure eyes and burn skin. Wear correct hand, head, eye and body protection.

H330 – Fatal if inhaled.

H341 – Suspected of causing genetic defects.

H350 – May cause cancer..

H361 – Suspected of damaging fertility or the unborn child.

H372 – Causes damages to organs through prolonged or repeated exposure.

H400 – Very toxic to aquatic life.

H410 – Very toxic to aquatic life with long lasting effects,

R-Phrases:

R26 – Very toxic by inhalation.

R45 – May cause cancer.

R48/23/25 – Toxic: danger of serious damage to health by prolonged exposure through inhalation and swallowed.

R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R62 – Possible risk of impaired fertility.

R63 – Possible risk of harm to the unborn child.

R68 – Possible risk of irreversible effects.

S-Phrases:

S16 – Keep away from source of ignition – No smoking.
and seek medical advice.

S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53 – Avoid exposure – obtain special instructions before use.

S60 – This material and its container must be disposed of as hazardous waste.

S61 – Avoid release to the environment.

Flux:

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 and heat.

Classification of the Substance/Mixture

CLP/GHS Classification (1272/2008):

Skin Corrosion/Irritation, Category 1B

Skin Sensitization, Category 1

Eye Damage/Irritation, Category 1

Specific Target Organ Toxicity -- Single Exposure, Category 3

Reproductive Toxicity, Category 2

Chronic Aquatic Toxicity, Category 2

EU Classification (67/548/EEC):

Toxic (T), Corrosive (C), Harmful (Xn), Irritant (Xi), Dangerous for the Environment (N), R61, R34, R62, R37, R43, R51/53

Signal Word: Danger**Hazard Statements:**

H314--Causes severe skin burns and eye damage

H317--May cause an allergic skin reaction

H318--Causes serious eye damage

H335--May cause respiratory irritation

H336--May cause drowsiness or dizziness

H360Df--May damage the unborn child. Suspected of damaging fertility

H411--Toxic to aquatic life with long lasting effects

Precautionary Statements:

P201--Obtain special instructions before use

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

P261--Avoid breathing dust/fume/gas/mist/vapors/spray

P264--Wash skin and hair thoroughly after handling

P271--Use only outdoors or in a well-ventilated area

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

P273--Avoid release to the environment

P280--Wear protective gloves/protective clothing/eye protection/face protection

P281--Use personal protective equipment as required

P301+P330+P331--IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353--IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340--IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IP305+P351+P338--IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313--If exposed or concerned: Get medical advice/attention

P312--Call a POISON CENTER or doctor/physician if you feel unwell.

P333+P313--If skin irritation or rash occurs, get medical advice/attention

P363--Wash contaminated clothing before reuse

P391--Collect spillage

P403+P233--Store in a well-ventilated place. Keep container tightly closed

P405--Store locked up

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

FIRST AID MEASURES:

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

Skin: Flush skin with large amounts of water and soap. 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.

FIRE-FIGHTING MEASURES:

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media: Not applicable

Specific Hazards Arising From Chemical: Decomposition may product NO₂ fumes. Hydrofluoric acid solution may

be formed with water run-off. Ammonia, Boron Oxides and Zinc/Zinc Oxides

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

ACCIDENTAL RELEASE MEASURES:

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.

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 a cool, dry place in closed packages. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

EXPOSURE CONTROLS/PERSONAL PROTECTION:

Engineering Controls: Avoid exposure to welding fumes, spatter, 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 protecting 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. Unless noted, all values are for 8 hour time weighted average.

Biological limits: No available data

Personal 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

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 color 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.

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: Excess heat

Incompatible Materials: Strong oxidants, sulphides, and cyanides

Hazardous Decomposition Products: Hydrofluoric acid, Ammonia, NO₂, and Boron Tri-Fluoride gases. When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of materials, and those from the base metal and coating. The amount of fumes generated from this products varies with welding parameters and dimensions.

TOXICOLOGICAL INFORMATION:

Signs and Symptoms of Overexposure: Amino Ethylethanolamine is extremely destructive to tissue of the mucous membrane and upper respiratory tract, eyes and skin. Other signs and symptoms are: spasms, inflammation and edema of the larynx, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, coughing, wheezing, laryngitis, and shortness of breath, headache and nausea. Zinc Oxide dust or fume can irritate the respiratory tract. Prolonged skin contact can produce a severe dermatitis called oxide pox. Exposure to high

levels of dust or fume can cause metallic taste, marked thirst, coughing fatigue, weakness, muscular pain and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin.

Acute Effects: Overexposure to welding fumes may result in symptoms such as eye and skin burns, damage to digestive and respiratory system, abdominal pain, vomiting and effect on the central nervous system. Amino Ethylethanolamine is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache and nausea. Zinc oxide dust or fume can irritate the upper respiratory tract. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to skin.

Chronic Effects: Prolonged exposure or repeated exposure of Zinc Oxide can cause reversible liver enzyme abnormalities. Triethanolamine: Kidney injury may occur.

DISPOSAL CONSIDERATIONS:

Product: For product elimination, consult recycling companies or appropriate local authority

Package: May be disposed in approved landfills provided local regulations are observed

REGULATORY INFORMATION:

Safety, health and environment regulations/legislation specific for the substance or mixture: Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

Warning: Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. Electric shock can kill. Arc rays and sparks can injure eyes and burn skin. Wear correct hand, head, eye and body protection.

Chemical safety assessment: No

USA: Under the OSHA Hazard Communication Standard, this product is considered hazardous. This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 et seq.) United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.

OTHER INFORMATION:

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H314--Causes severe skin burns and eye damage

H317--May cause an allergic skin reaction

H318--Causes serious eye damage

H335--May cause respiratory irritation

H336--May cause drowsiness or dizziness

H360Df--May damage the unborn child. Suspected of damaging fertility

H411--Toxic to aquatic life with long lasting effects

R-Phrases:

R34--Causes burns

R43--May cause sensitization by skin contact

R50/53--Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R51/53--Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R61--May cause harm to the unborn child

R62--Possible risk of impaired fertility

S-Phrases:

S26--In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37/39--Wear suitable protective clothing, gloves and eye/face protection

S45--In case of accident or if you feel unwell seek medical advice immediately

S60--This material and its container must be disposed of as hazardous waste

S61--Avoid release to the environment