

SAFETY DATA SHEET

Issuing Date 25-Mar-2021

Revision date 25-Mar-2021

Revision Number 1

1. Identification

Product identifier

Product Name Amalloy 500

Other means of identification

Product Code(s) WA00046

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Covered Electrode for Shielded Metal Arc Welding (SMAW)

Restrictions on use

Details of the supplier of the safety data sheet

Supplier Address

Amalloy Industries, 1405 Southview Ln, Albert Lea, MN 56007

Emergency telephone number

Company Phone Number 507-373-1677

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage



Appearance Coated electrode	Physical state Solid	Odor Odorless
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Precautionary Statements - Prevention

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

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

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

Specific treatment (see on this label)

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

Immediately call a POISON CENTER or doctor

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

EN CAS D'INGESTION: Rincer la bouche. NE PAS faire vomir

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

May be harmful if swallowed

When this product is used in a welding process, the hazards are mostly from electric shock, heat, radiation, fumes and gases.

Electric shock can kill. Arc rays, spatter, and melting metals can severely injure eyes and burn skin. Welding arc and sparks can cause fire

Fumes and gases can be dangerous to your health. Certain medical studies have suggested that nervous system and/or lung damage can result from overexposure to welding fumes and gases

The welding fumes and gases produced from welding rod, coating flux, and base metal in a welding process may contain manganese and manganese compounds, nickel and nickel compounds, chromium (VI) and chromium compound, carbon dioxide, carbon monoxide, nitrogen dioxide, and ozone.

Overexposure to manganese and its compounds may cause metal fume fever and affect the central nervous system. Prolonged inhalation of nickel and chromium (VI) compounds above safe exposure limits can cause cancer

Unknown acute toxicity 17 % of the mixture consists of ingredient(s) of unknown toxicity

17 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

17 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. Composition/information on ingredients**Substance**

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Trade secret
Aluminum	7429-90-5	30-60	*
Potassium hydroxide	1310-58-3	3-7	*
Silicon	7440-21-3	1-5	*
Potassium Tetrafluoroaluminate	14484-69-6	1-5	*
Magnesium Fluoride Powder	7783-40-6	0.5-1.5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling In case of insufficient ventilation, wear suitable respiratory equipment such as an air supplied respirator. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash before reuse. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from moisture. Store away from other materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable particulate matter	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Silicon 7440-21-3	No data available	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Potassium Tetrafluoroaluminate 14484-69-6	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ F TWA: 2.5 mg/m ³ F
Magnesium Fluoride Powder 7783-40-6	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ F TWA: 2.5 mg/m ³ F

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Hand protection Impervious gloves. Wear suitable gloves.

Skin and body protection Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid
Appearance Coated electrode
Color white
Odor Odorless
Odor threshold

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties
Oxidizing properties
VOC Content (%) No data available

10. Stability and reactivity

Reactivity

Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information**Information on likely routes of exposure****Product Information**

Inhalation	Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available.
Eye contact	Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation.
Ingestion	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Coughing and/ or wheezing. Redness. Burning. May cause blindness.
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Acute toxicity**Numerical measures of toxicity****The following values are calculated based on chapter 3.1 of the GHS document**

ATEmix (oral)	3,330.70 mg/kg
ATEmix (dermal)	51,349.20 mg/kg

Unknown acute toxicity	17 % of the mixture consists of ingredient(s) of unknown toxicity
	17 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
	17 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
	17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
	17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
	17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Silicon 7440-21-3	= 3160 mg/kg (Rat)	-	-
Magnesium Fluoride Powder 7783-40-6	= 2330 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation May cause skin irritation.

Product Information

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Information

Respiratory or skin sensitization

Product Information

Germ cell mutagenicity

Product Information

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Potassium Tetrafluoroaluminate 14484-69-6	-	Group 3	-	-
Magnesium Fluoride Powder 7783-40-6	-	Group 3	-	-

Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity

Product Information

STOT - single exposure

Product Information

STOT - repeated exposure

Product Information

Target organ effects Respiratory system, Eyes, Skin.

Aspiration hazard

Other adverse effects

Interactive effects

12. Ecological information

Ecotoxicity

Product Information				
Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3	-	LC50: =80mg/L (96h, Gambusia affinis)	-	-

Persistence and degradability

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Potassium hydroxide 1310-58-3	0.83

Other adverse effects

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Aluminum 7429-90-5	Ignitable powder
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. Transport information

- DOT** Not regulated
- TDG** Not regulated
- MEX** Not regulated
- ICAO (air)** Not regulated
- IATA** Not regulated
- IMDG** Not regulated
- RID** Not regulated
- ADR** Not regulated
- ADN** Not regulated

15. Regulatory information**International Inventories**

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide 1310-58-3	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Potassium hydroxide 1310-58-3	1000 lb	-

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations**US State Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania

Aluminum 7429-90-5	X	X	X
Potassium hydroxide 1310-58-3	X	X	X
Silicon 7440-21-3	X	X	X
Potassium Tetrafluoroaluminate 14484-69-6	X	-	-
Magnesium Fluoride Powder 7783-40-6	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Physical and chemical properties -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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Revision Note**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet