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Revision Number 3

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 54 Aluminum Flux Cored Brazing Rod
Other means of identification	CW1857
Recommended use	Brazing Alloy, Welding Alloy
Restrictions on use	For industrial use only, These items are only intended for normal welding purposes

Supplier

Corporate Headquarters:
Cronatron, A Lawson Brand
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24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

Website <https://www.lawsonproducts.com>

2. HAZARD(S) IDENTIFICATION

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

Flammable solids	Category 2
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Symbol



Signal word WARNING

Hazard statements H228 - Flammable solid

Precautionary statements

General P102 - Keep out of reach of children

Prevention	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment P280 - Wear protective gloves/protective clothing and eye/face protection
Response	
Fire	P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish
Spill	Not applicable
Storage	Not applicable
Disposal	Not applicable
Hazard(s) Not Otherwise Classified (HNOC)	None known.
Physical Hazards Not Otherwise Classified (PHNOC)	None known.
Unknown acute toxicity	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Mixture.

Chemical name	CAS-No	Weight %
Aluminum	7429-90-5	90-98
Silicon	7440-21-3	1-10
Sodium chloride	7647-14-5	0.1-1.0
Potassium fluoride	7789-23-3	0.1-1.0

4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention immediately.
Skin contact	Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
Eye contact	Flush with plenty of water for at least 15 minutes. Get medical attention.
Most important symptoms (acute)	Not available.
Most important symptoms (over-exposure)	Not available.
Indication of any immediate medical attention and special treatment needed	Not available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray. Alcohol resistant foam. Dry chemical. Carbon dioxide (CO ₂). 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 safe distance.
Specific hazards	Welding arcs and sparks can ignite combustible and flammable materials. Hazardous decomposition products. Aluminum oxide. silicon oxides. hydrogen fluoride. Potassium oxide.
Special protective equipment for fire-fighters	Firefighters should wear NIOSH/MSHA approved (or equivalent) self-contained pressure-demand breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection recommended in Section 8.
Methods and materials for containment and cleaning up	Solid objects may be picked up and placed in a container. Make sure the solid objects are at room temperature before handling. 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	Gloves should be worn when handling to prevent cuts. Avoid exposure to dust and do not ingest. Some individuals may develop an allergic reaction to certain materials.
Conditions for safe storage, including any incompatibilities	Keep in a dry, cool and well-ventilated place. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions. Ground/bond container and receiving equipment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Aluminum	15 mg/m ³ TWA 5 mg/m ³ TWA	1 mg/m ³ TWA	10 mg/m ³ TWA 5 mg/m ³ TWA 5 mg/m ³ TWA 5 mg/m ³ TWA
Silicon	15 mg/m ³ TWA 5 mg/m ³ TWA	-	10 mg/m ³ TWA 5 mg/m ³ TWA
Sodium chloride	-	-	-
Potassium fluoride	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA

Appropriate engineering controls	The usual precautionary measures for handling chemicals should be followed. Maintain an ergonomically appropriate working environment. Wear protective equipment. Keep unprotected persons away. Avoid creating dust. Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Train the welder not to touch live electrical parts and to insulate himself from work and ground. Check condition of protective clothing and equipment on a regular basis.
Individual protection measures, such as personal protective equipment	
Eye protection	Welder's helmet or face shield with color absorbing lenses. Shield and filter to provide

protection from harmful UV radiation, infrared and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin and body protection Wear impervious gloves to prevent contact with the skin. 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.

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.

Hygiene measures Keep away from food, drink and animal feeding stuffs. Wash hands after handling the product. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of workday. Store protective clothing separately. Maintain an ergonomically appropriate working environment. Keep unnecessary and unprotected personnel from entering the area. Wear protective equipment.

Canadian Province Occupational Exposure Limits

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
Aluminum	10 mg/m ³ TWA 5 mg/m ³ TWA	1.0mg/m ³ T WA	1 mg/m ³ TWA	10 mg/m ³ TWA 5 mg/m ³ TWA	1 mg/m ³ TWA	1 mg/m ³ TWA	1 mg/m ³ TWA	1 mg/m ³ TWA	10 mg/m ³ TWA EV 5 mg/m ³ TWA EV 5 mg/m ³ TWA EV	20 mg/m ³ STEL 10 mg/m ³ STEL 10 mg/m ³ TWA 5 mg/m ³ TWA
Silicon	-	10mg/m ³ T WA 3mg/m ³ TW A	-	10 mg/m ³ TWA	-	-	-	-	10 mg/m ³ TWA EV	20 mg/m ³ STEL 10 mg/m ³ TWA
Sodium chloride	-	-	-	-	-	-	-	-	-	-
Potassium fluoride	2.5 mg/m ³ TWA	2.5mg/m ³ T WA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA EV	5 mg/m ³ STEL 2.5 mg/m ³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Aluminium
Odor	Odorless
Odor threshold	Not applicable
pH	Not applicable
Melting point/range °C	850 - 1100 °C
Melting point/range °F	1560 - 2000 °F
Boiling point/range °C	Not available
Boiling point/range °F	Not available
Flash point °C / °F	Not available

Evaporation rate	Not applicable
Flammability (Solid, Gas)	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	6
Solubility	Insoluble in water
Partition coefficient (n-octanol/water)	No data available
Autoignition temperature °C	Not applicable
Autoignition temperature °F	Not applicable
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal storage conditions.
Possibility of hazardous reactions	Contact with chemical substances like acids or strong bases could cause generation of gas. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Conditions to avoid	Reacts with water. Keep away from acids.
Incompatible materials	Oxidizing agents. Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate hydrogen gas which could create an explosive hazard.
Hazardous decomposition products	When this product is used in a welding process, hazardous decomposition products would include those from volatilization, reaction or oxidation of the materials 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 the fume compounds. Reasonably expected gaseous products would include: Ozone. Nitrogen oxides (NOx). carbon oxides. 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

Information on likely routes of exposure	Dermal. Inhalation. Ingestion.
Symptoms	Inhalation of welding fumes and gases can be dangerous to your health. Welding fumes

cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being used. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (group 2B).

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

Short term overexposure to welding fumes may result in dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Long term exposure may lead to iron deposits in the lungs and is believed by some investigators to affect pulmonary function. Signs and symptoms of potassium fluoride exposure is salivation, nausea, vomiting, abdominal pain, fever and irregular breathing. Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcaemia, perforation of the nasal septum, and calcium deposits in the ligaments. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may provoke the following symptoms: spasm, inflammation and edema of the bronchi, spasm, inflammation and edema of the larynx. May cause sensitization of susceptible persons.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Aluminum	-	-	-
Silicon	-	-	= 3160 mg/kg (Rat)
Sodium chloride	> 42 g/m ³ (Rat) 1 h	> 10 g/kg (Rabbit)	= 3 g/kg (Rat)
Potassium fluoride	-	-	= 245 mg/kg (Rat)

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA RTK Carcinogens	NTP
Aluminum	A4	-	-	-
Silicon	-	-	-	-
Sodium chloride	-	-	-	-
Potassium fluoride	A4	Group 3	-	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Aluminum	-	-	ACGIH A4	-	ACGIH A4	-
Silicon	-	-	-	-	-	-
Sodium chloride	-	-	-	-	-	-
Potassium fluoride	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Aluminum	-	-
Silicon	-	-
Sodium chloride	-	5560 - 6080: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 12946: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 6020 - 7070: 96 h <i>Pimephales promelas</i> mg/L LC50 static 4747 - 7824: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 6420 - 6700: 96 h <i>Pimephales promelas</i> mg/L LC50 static 7050: 96 h <i>Pimephales promelas</i> mg/L LC50 semi-static
Potassium fluoride	-	9.3: 96 h <i>Ctenopharyngodon idella</i> mg/L LC50

Persistence and degradability The welding rods consist of elements that cannot degrade any further in the environment.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Aluminum 7429-90-5	7429-90-5	-
Silicon 7440-21-3	7440-21-3	-
Sodium chloride 7647-14-5	7647-14-5	-
Potassium fluoride 7789-23-3	7789-23-3	-

Mobility in soil

Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

Other adverse effects

Welding consumables and materials can degrade into the components used to manufacture the product. Avoid exposure to conditions that could lead to accumulation in soils and groundwater. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

13. DISPOSAL CONSIDERATIONS

Disposal information

Collect, transport, store or dispose in accordance with local, state, provincial and federal regulations. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste.

Contaminated packaging

Dispose in accordance with local, state and federal regulations.

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT

Proper shipping name Not regulated

TDG

Proper shipping name Not regulated

IATA

Proper shipping name Not regulated

IMDG/IMO

Proper shipping name Not regulated

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Aluminum	7429-90-5	-	-	-
Silicon	7440-21-3	-	-	-
Sodium chloride	7647-14-5	-	-	-
Potassium fluoride	7789-23-3	-	-	-

Special Precautions

Multi-modal shipping descriptions are provided for informational purposes and do not consider container size. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

15. REGULATORY INFORMATION

State regulations

U.S. state Right-to-Know regulations

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Aluminum	7429-90-5	X	X	X
Silicon	7440-21-3	X	X	X
Sodium chloride	7647-14-5	-	-	-
Potassium fluoride	7789-23-3	-	X	-

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Aluminum	7429-90-5	-
Silicon	7440-21-3	-
Sodium chloride	7647-14-5	-
Potassium fluoride	7789-23-3	-

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
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Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Aluminum	7429-90-5	-	1.0 %
Silicon	7440-21-3	-	-
Sodium chloride	7647-14-5	-	-
Potassium fluoride	7789-23-3	-	-

US EPA SARA 311/312 hazardous categorization

Not applicable

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Aluminum	X	X	-
Silicon	X	X	-
Sodium chloride	X	X	-
Potassium fluoride	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health Not available
 Flammability Not available
 Instability Not available

HMIS

Health Not available
 Flammability Not available
 Physical hazards Not available

Notice: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

Prepared by Regulatory Affairs

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Revision note

Key to abbreviations

ACGIH (American Conference of Governmental Industrial Hygienists)
 ATE (Average Toxicity Estimate)
 DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
 HMIS (Hazardous Materials Identification System)
 IARC (International Agency for Research on Cancer)
 IATA (International Air Transport Association)
 IMDG/IMO (International Maritime Dangerous Goods/International Maritime Organization)
 NFPA (National Fire Protection Association)

NTP (National Toxicology Program)
OEL (Occupational Exposure Level)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
TSCA (Toxic Substance Control Act)
USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet