



Reviewed/Written on 10/10/2017

Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Magnesium AZ292A - 1/8 x 36 MGNS Alloy

Other means of identification/Product Code: Part number 1010102, AZ92T60

Recommended use and restriction on use

Recommended use: Metal Soldering Operations

Restrictions on use: No further relevant information available.

Manufacturer/Importer/Supplier/Distributor information

Importer:

NEW ZEALAND

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Safety Data Sheet Questions: sales@harrisnz.com

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2 HAZARD(S) IDENTIFICATION

HSNO classification of the substance/mixture.

This product has been approved under the Hazardous Substances and New Organisms (HSNO) Act and is classified as follows: Metal Industry Products (Toxic) Group Standard 2006, HSR001470.

Classes: 6.1E

EMERGENCY OVERVIEW. Solid, Silvery- white, Odourless, large pieces are difficult to ignite but when heated to a temperature near the melting point (1200°C), can ignite and burn with intense heat and brilliant white flame. This sheets, chips, dust and fines are easily ignited. **Welding fumes present a hazard, not the ingredients of the electrode due to low chemical composition percentage values.** Welding fumes and gases cannot be classified simply. The composition and quantity of these are dependent upon the metal being welded, procedures, electrode type and electrode size. Welding consumables applicable to this sheet as shipped are non-reactive, non-flammable, non-explosive and essentially non-hazardous until welded. Packaging used may be flammable. Welding arcs and sparks can ignite combustibles and flammable products.

HSNO Classification(s) Aquatic Acute: Category 9.1A

Specific target organ toxicity, repeat exposure: Category 6.9A

Specific target organ toxicity, single exposure: Category 6.9B

Label elements

Signal word

WARNING

Hazard pictograms



Hazard Statement(s)**KEEP OUT OF REACH OF CHILDREN**

Toxic to aquatic life

Toxic to health/skin from repeated and single systemic exposure

Aluminium = 4.3B Substances and mixtures, which in contact with water, emit flammable gases – medium hazard.

Aluminium = 4.3B Solids that emit flammable gas when in contact with water: medium hazard

Magnesium = 4.1.1B Readily combustible solids and solids that may cause fire through friction: low hazard.

Magnesium = 6.1E (Oral) Acutely toxic

Magnesium = 9.3C Harmful to terrestrial vertebrates

Zinc = 4.2B Spontaneously combustible substances: self heating substances: medium hazard

Zinc = 4.3A Solids that emit flammable gas when in contact with water: high hazard

Zinc = 6.1E (Inhalation) Acutely toxic

Zinc = 9.1A Very ecotoxic in the aquatic environment (algal), (fish) and (crustacean).

Additional information:

Read labels before use

Additional information:**Other hazards:**

Heat rays (infrared radiation) from flame or hot metal can injure eyes. Overexposure to brazing fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product.

3 Composition/information on ingredients**Chemical characterization: Mixtures**

Description: Mixture: consisting of the following components.

Substances/Mixtures		
CAS	Ingredient	Proportion
7429-90-5	Aluminium (Al)	8.3-9.7
7440-41-7	Beryllium (Be)	0.0002-0.0008
7440-50-8	Copper (Cu)	0.05 MAX
7439-89-6	Iron (Fe)	0.005 MAX
7439-96-5	Manganese (Mn)	0.15-0.50
7439-95-4	Magnesium (Mg)	Remainder
7440-21-3	Silicon (Si)	0.05 MAX
7440-02-0	Nickel (Ni)	0.005 Max
7440-66-6	Zinc (Zn)	1.7-2.3
	Other	0.30 MAX

Additional information:

For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

Composition comments:

The term "Dangerous Components" should be interpreted as a term defined in Hazard Communication standards and does not necessarily imply the existence of a hazard. The product may contain additional nonhazardous ingredients or may form additional compounds under the condition of use. Refer to Sections 2 and 8 for more information.

4 First-aid measures**Description of first aid measures**

General information: EMERGENCY OVERVIEW. Solid, Silvery-white, Odourless, large pieces are difficult to ignite but when heated to a temperature near the melting point (1200°C), can ignite and burn with intense heat and brilliant white flame. This sheets, chips, dust and fines are easily ignited. **Welding fumes present a hazard, not the ingredients of the electrode due to low chemical composition percentage values.** Welding fumes and gases cannot be classified simply. The composition and quantity of these are dependent

upon the metal being welded, procedures, electrode type and electrode size. Welding consumables applicable to this sheet as shipped are non-reactive, non-flammable, non-explosive and essentially non-hazardous until welded. Packaging used may be flammable. Welding arcs and sparks can ignite combustibles and flammable products.

Inhalation:

Can cause irritation of upper respiratory tract, metal fume fever and other health effects listed below. Cancer and reproductive hazard.

Skin contact:

Can cause irritation.. Immediately wash skin with plenty of soap and water for at least 15 minutes.

Eye contact:

Contact with the eyes is an irritant, flush eye for a minimum of 15 minutes.

Ingestion:

Unlikely due to form of product

Information for doctor: Treat Symptomatically

Health Effects of Ingredients

Manganese dust or fumes Chronic overexposures: Can cause central nervous system damage, secondary Parkinson's disease, inflammation of the lung tissue, scarring of the lungs (pulmonary fibrosis) and reproductive harm in males.

Silicon inert dusts Chronic overexposures: Can cause chronic bronchitis and narrowing of the airways. Studies with experimental animals by injection have found lesions on the lungs.

Magnesium oxide fumes Can cause irritation of eyes and respiratory tract. Acute overexposures: Can cause nausea, fever, chills, shortness of breath and malaise (metal fume fever).

Zinc oxide fumes Can cause irritation of upper respiratory tract. Acute overexposures: Can cause nausea, fever, chills, shortness of breath and malaise (metal fume fever). Zinc oxide dust Expected to be a low health risk by inhalation.

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Danger

Brazing hazards are complex and may include physical and health hazards such as but not limited to infrared radiation from flame or hot metal, physical strains, thermal burns due to hot metal or spatter and potential health effects of overexposure to brazing fume or dust. Refer to Section 11 for more information.

5 Fire-fighting measures

Extinguishing media

Use an extinguishing agent suitable for the surrounding fire. Water spray or fog.

Special hazards arising from the substance or mixture

Irritating and toxic gases or fumes may be released during a fire.

Advice for firefighters

Wear proper protective equipment.

Additional information:

This product must be substantially preheated before ignition can occur. If involved in a fire, this product may decompose to produce irritating vapours and toxic gases, including hydrogen chloride and ammonia.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation when welding. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up:**Small/Large Spill**

If molten: Contain the flow using dry sand or salt flux as a dam. Do not use shovels or hand tools to halt the flow of molten metal. Allow the spill to cool before re-melting as scrap. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling: Product should be kept dry. Avoid contact with sharp edges or heated metal.

Conditions for safe storage, including any incompatibilities**Storage:**

Requirements for Processes Which Generate Dusts or Fumes

Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or remelt ingot are known to have caused explosions in melting operations. While the products may have minimal surface roughness and internal voids, there remains the possibility of moisture contamination or entrapment. If confined, even a few drops of water can lead to violent explosions.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection**Control parameters****Engineering Controls:**

Use with adequate explosion-proof ventilation to meet the limits listed in Section 8.

Exposure Guidelines:

Exposure Standards					
CAS	Ingredient	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³
7429-90-5	Aluminium (Al)		5 Fumes 10 Dust		
7440-41-7	Beryllium (Be)		0.002		
7440-50-8	Copper (Cu)		0.2 Fumes 1 Dust/mist		
7439-89-6	Iron (Fe)		N/A		
7439-96-5	Manganese (Mn)		1 Dust/fumes		
7439-95-4	Magnesium (Mg)		N/A		
7440-21-3	Silicon (Si)		10		
7440-02-0	Nickel (Ni)		1		
7440-66-6	Zinc (Zn)		10 Fume		

Reference: ACGIH Biological Exposure Indices

Refer to Worksafe Australia for standards:

http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/639/Workplace_Exposure_Standards_for_Airborne_Contaminants.pdf

Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

No biological exposure limits noted for the ingredient(s).

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established,

maintain airborne levels to an acceptable level. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ventilation

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

Breathing equipment:



Where an inhalation risk exists, wear a Class P2 (Metal fume) respirator. If using product in a confined area, wear an Air-line respirator.

Protection of hands:



Wear nitrile or neoprene gloves for routine industrial use. Use triple gloves for spill response.

Eye protection:



Wear safety glasses with side shields (or goggles). When these products are used in conjunction with soldering, it is recommended that safety glasses, goggles, or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting") be worn.

Body protection: Protective work clothing



9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance	Silver, Metallic	Physical State	Solid
Odour	None	Flammability	Not Available
Odour Threshold	Not Available	Flash Point	Not Available
pH	Not Applicable	Auto Igniting	Not Available
Melting point	600°C	Solubility water	Insoluble
Vapour Pressure, mmHg@980°C	Not Applicable	Flash Point	Not Applicable
Vapour Density	Not Available	Density at 20°C (68°F)	Not Applicable
Boiling Point & boiling range	Not Applicable	Evaporation Rate	Not Applicable
Freezing/Melting Point	Not Available	Specific Gravity	Not Applicable

10 Stability and reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport. If dusts are formed: Metallic dusts may ignite or explode.

Chemical stability: Stable under normal temperatures and pressures and conditions of storage.

Possibility of hazardous reactions

Polymerization is not expected to occur.

Conditions to avoid: Chips, fines, dust and molten metal are considerably more reactive with the followings:

- Water: Slowly generates flammable/explosive hydrogen gas and heat. Generation rate is greatly increased with smaller particles (e.g., fines and dusts). Molten metal can react violently/explosively with water or moisture, particularly when water is entrapped.
- Heat: Oxidizes at a rate dependent upon temperature and particle size. Supports ignition above 950 F (510 C) and burns extremely vigorously with white, hot flame.
- Strong Oxidizers: Violent reaction with considerable heat generation.
- Acids and alkalis: Reacts to generate flammable/explosive hydrogen gas. Generation rate is greatly increased with smaller particles (e.g., fines and dusts).
- Halogenated compounds: Reacts with chlorine and iodine.

Brazing fumes and gases cannot be classified simply. The composition and products: quantity of both are dependent upon the metal being joined, the process, procedure and filler metals and flux used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being joined (such as paint, plating, or galvanizing), the number of operators and the volume of the worker area, the quality and amount of ventilation, the position of the operator's head with respect to the fume and fumes from chemical fluxes used in some brazing operations.

When the wire or rod is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 3, plus those from the base metal and coating, etc., as noted above.

11 Toxicological information

Toxicity – Animal and Human Species				
CAS	Ingredient	Oral Toxicity	Intravenous Toxicity LD50	Inhalation Toxicity LD50
7429-90-5	Aluminium (Al)			LD50 Rat 7.6mg/l
7440-41-7	Beryllium (Be)	Not Established		
7440-50-8	Copper (Cu)	LDL0 0.12mg/kg Human LD50 Rat 481mg/kg	3.5mg/kg Mouse	
7439-89-6	Iron (Fe)	LD50 98.6gm/kg Rat TDLo 77mg/kg Child		
7439-96-5	Manganese (Mn)	LD50 Rat >2000mg/kg		TCLo 2300mg/m ³ Man
7439-95-4	Magnesium (Mg)	LDLo Dog 230mg/kg		
7440-21-3	Silicon (Si)	LD50 Rat 3160mg/kg		
7440-02-0	Nickel (Ni)	LD50 Rat >9000 mg/kg		
7440-21-3	Zinc (Zn)	LD50 Rat >2000 mg/kg	Rabbit 1130 mg/kg	

Information on toxicological effects:**Acute toxicity:**

Carbon dioxide, carbon monoxide and nitrogen dioxide fumes can cause acute toxicity when welding.

Skin Contact:

Dust or fumes of these products may be irritating to contaminated skin.

Eye Contact:

Dust or fumes of these products may be irritating to contaminated eye.

Respiratory sensitisation:

Dust or fumes of these products may be irritating.

Aspiration:

Not a respiratory sensitiser.

Inhalation:

Welding fumes can cause potential chronic health hazards.

Carcinogenicity:

Welding fume is classified as possibly carcinogenic to humans

STOT – single exposure:

Not classified

STOT – repeated exposure:

Not classified

12 Ecological information

Ingredient	Result LC50	Species	Exposure
Aluminium (Al)	2.6 mg/L	Daphnia Magna	24 hours
Beryllium (Be)	No Data Available		
Copper (Cu)	58 mg/L	Fish	96 hours
Iron (Fe)	>500mg/l	Fish	96 hours
Manganese (Mn)	>3.6mg/L > 1.6mg/L EC50 2.8mg/L	Fish Crustacea Algae	96 hours 48 hours
Magnesium (Mg)	No Data Available		
Silicon (Si)	N/A		
Nickel (Ni)			
Zinc (Zn)	0.00272mg/L 0.04mg/L	Fish Crustacea	96 Hours 48 Hours

Ecotoxicity: Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.

Persistence and Degradability: No data is available on the degradability of this product

Bioaccumulative Potential: No data is available on the degradability of this product

Mobility in soil: No data is available on the degradability of this product

Other adverse effects: No data is available on the degradability of this product

13 Disposal considerations

Waste treatment methods

Recommendation:

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Uncleaned packagings: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Recommendation: Disposal must be made according to official regulations.

14 Transport Information

This product is not classed as hazardous.

UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not Regulated
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards:	No

Marine pollutant:	
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not regulated.

15 Regulatory information

Product Name: Magnesium AZ292A - 1/8 x 36 MGNS Alloy

Safety, health and environmental regulations/legislation specific for the substance or mixture:

Poison Schedule:

<http://www.health.govt.nz/your-health/conditions-and-treatments/accidents-and-injuries/poisoning>

Classifications:

<http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/welding-health-and-safety-in/welding-doll10157.pdf>

<http://www.hazardoussubstances.govt.nz/guide>

<http://www.epa.govt.nz/search-databases/Pages/HSNO-CCID.aspx>

16 Other information

References

HSNO Control Regulations

EPA Your Practical Guide – Working Safely with Hazardous Substances

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Correlation between GHS and New Zealand HSNO Hazard Classes and Categories

Metal Industry Products (Toxic [6.1 + 6.7]) Group Standard 2006

Standard for the Uniform Scheduling of Medicines and Poisons

Globally Harmonised System of classification and labelling of chemicals.

Health and safety in welding

WELDING (1): Due to the diversity of welding techniques, processes, materials used, nature of the surface being welded and the presence of contaminants, the fumes & gases associated with welding will vary in composition and quantity. When assessing a welding process, the toxic fumes generated may not only be associated with the parent metal, filler wire or electrode. The welding/cutting arc may generate nitrogen oxides, carbon monoxide & other gases, whilst UV radiation emitted from some arcs generates ozone. Ozone may irritate mucous membranes and cause pulmonary oedema & haemorrhage. Shielding gases (e.g. carbon dioxide and inert gases i.e. argon and helium) in high concentrations, in confined spaces, may reduce oxygen in the atmosphere to dangerous levels, resulting in possible asphyxiation.

WELDING (2): In addition to complying with individual exposure standards for specific contaminants, where current manual welding processes are used, the fume concentration inside the welder's helmet should not exceed 5 mg/m³ (unless otherwise classified) when collected in accordance with Australian Standard AS 3853.1: Fume from welding and allied processes - Guide to methods for the sampling and analysis of particulate matter and AS 3853.2: Fume from welding and allied processes - Guide to methods for the sampling and analysis of gases. Airway irritation and metal fume fever are the most common acute effects from welding fumes. Reported to cause reduced sperm quality in welders.

WELDING (3): Other gases and fumes associated with welding processes include: Inert shielding gases (e.g. argon, carbon dioxide, helium) which may reduce the atmospheric oxygen content in poorly ventilated areas. UV-radiation and Infra-Red radiation may decompose chlorinated degreasing agents to form highly toxic and irritating phosgene gas. This may occur if a metal has been degreased but inadequately dried or when vapours from a nearby degreasing bath enter the welding zone.

WELDING (4): Welding fumes may contain a wide variety of chemical contaminants, including oxides and salts of metals and other compounds which may be generated from electrodes, filler wire, flux materials and from the welded material (e.g. painted surfaces). Welding stainless-steel and its alloys generates nickel and chromium (VI) compounds. Welding fumes are retained in the lungs. Sparingly soluble compounds may be released slowly from the lungs. Welding fume is classified as possibly carcinogenic to humans (IARC Group 2B).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Disclaimer:

We urge each end user and recipient of this SDS to study it carefully. If necessary, consult an industrial hygienist or other expert to understand this information and safeguard the environment and protect workers from potential hazards associated with the handling or use of this product.

Harris Products Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

WARNING: PRODUCT COMPONENTS PRESENT HEALTH AND SAFETY HAZARDS. READ AND UNDERSTAND THIS SAFETY DATA SHEET (S.D.S.). ALSO, FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

The information contained herein relates only to the specific product. If the product is combined with other materials, all component properties must be considered. **BE SURE TO CONSULT THE LATEST VERSION OF THE SDS. SAFETY DATA SHEETS ARE AVAILABLE FROM HARRIS PRODUCTS GROUP** Harris Products Group, HGE PTY LTD, Brisbane | Melbourne | Perth | New Zealand, Harris Products Group, 47 Edmundson St, Onekawa, Napier, New Zealand 4110, (06) 83405875, **Safety Data Sheet Questions:** sales@harrisnz.com **Website:** <http://www.harrisproductsgroup.co.nz>

STATEMENT OF LIABILITY-DISCLAIMER

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[End of SDS]