



Reviewed on 06/04/2022

Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Stainless Steel Wire or Rods and **Super Missileweld Tig and 99T

Listed in Section 3 under Chemical Composition

Other means of identification: Metal Alloys

SDS # 0108

Recommended use and restriction on use

Recommended use: Metal Welding

Restrictions on use: No further relevant information available.

Manufacturer/Importer/Supplier/Distributor information

Importer:

NEW ZEALAND

Harris Products Group

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Frankton, Hamilton

New Zealand 3204

(06) 83405875

Safety Data Sheet Questions: sales@harrisnz.com

Website: <http://www.harrisproductsgroup.co.nz>

New Zealand National Poisons Centre/Helpline (24 hours) 0800 POISON (0800 764 766)

Fire Service - Ambulance – 111

AUSTRALIA

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Darra, QLD, Australia 4076

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Safety Data Sheet Questions: sales@hgea.com.au

Website: <http://www.harrisproductsgroup.com.au>

2 HAZARD(S) IDENTIFICATION

GHS classification of the substance/mixture.

Classified according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

Stainless Steel is considered as "article" and not hazardous in its solid form. However certain process such as cutting, milling, grinding, melting and welding could result in emission of some hazardous material. The GHS Classification below pertains to these emitted products during these processes.

EMERGENCY OVERVIEW: These products consist of solid metal rods that are odourless. There are no immediate health hazards associated with these products. The Nickel and Chromium components of some of these products are suspect carcinogens. These products are not flammable nor reactive. If involved in a fire, these products may generate irritating iron fumes, a variety of iron compounds, carbon dioxide, carbon monoxide, and metal oxides. Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.

GHS Classification(s)

Acute Tox. 4 (Oral)
Skin Sens. 1
Carc. 1B
Aquatic Acute: 1
Aquatic Chronic: 3



SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: During welding operations, the most significant route of over-exposure is via inhalation of fumes.

TARGET ORGANS: For fumes: **ACUTE:** Skin, eyes, respiratory system. **CHRONIC:** Skin, respiratory system, pancreas and liver.

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

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

SKIN EXPOSURE: If fumes generated by welding operations involving these products contaminate the skin, begin decontamination with running water. If molten material contaminates the skin, immediately begin decontamination with cold, running water. Minimum flushing is for 15 minutes. Victim must seek medical attention if any adverse reaction occurs.

EYE EXPOSURE: If fumes generated by welding operations involving these products enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek immediate medical attention.

INHALATION: If fumes generated by welding operations involving these products are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

INGESTION: If swallowed call physician immediately! Do not induce vomiting unless directed by medical personnel. Rinse mouth with water if person is conscious. Never give fluids or induce vomiting if person is unconscious, having convulsions, or not breathing.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory, pancreas, and liver disorders may be aggravated by prolonged over-exposures to the dusts or fumes generated by these products.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5 Fire-fighting measures

Extinguishing media

Water spray, Halon, Dry Chemical, Carbon Dioxide, Foam or any ABC class.

Special hazards arising from the substance or mixture

None – not flammable.

Unusual fire and explosion hazards: When involved in a fire, these products may decompose and produce iron fumes, a variety of nickel, iron, copper and a variety of metal compounds and metal oxides. The hot material can present a significant thermal hazard to firefighters.

Additional information:

Read and understand the Work Safe Australia Code of Practice on Welding Processes and "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" before using this product. Section 274 of the Work Health and Safety Act (the WHS Act.)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

These products are solid metal rods, with no spill or leak hazards.

Environmental precautions:

Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up:

These products are solid metal rods, with no spill or leak hazards.

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:

Precautions for safe handling

Do not eat or drink while handling these products. Use ventilation and other engineering controls to minimize potential exposure to these products. All employees who handle this material should be trained to handle it safely. Use in a properly ventilated location. Avoid breathing fumes of these products during welding or brazing operations. Read and understand the manufacturer's instruction and the precautionary label on the product. See the Australian Standard - AS 1674.1 – 1997 – Reconfirmed 2016. Safety in Welding and Allied Processes Australia.

Conditions for safe storage, including any incompatibilities

Storage:

All employees who handle these products should be trained to handle it safely. Use in a well-ventilated location. Avoid breathing fumes of these products during welding operations. Open containers on a stable surface. Packages of these products must be properly labelled.

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

8 Exposure controls/personal protection

Control parameters

Exposure Guidelines:

Refer to the Safe Environments risk management document – Welding Fume -

<http://www.safeenvironments.com.au/welding-fume/> The exposure standard refers to the publication by Work Safe Australia "Workplace Exposure Standard for Airborne Contaminants" with the Date of Effect being 22 December 2011. Work Safe Australia note that "exposure standards do not represent a fine dividing line between a healthy and unhealthy work environment. Natural biological variation and the range of individual susceptibilities mean that a small number of people might experience adverse health effects below the exposure standard.

Hazard Classification for Chemical Composition					
CAS	Ingredient	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³
7439-89-6	Iron (exposure limits are for iron oxide dust and fume)				
7439-96-5	Manganese (exposure limits are for Manganese, elemental, inorganic compounds, and fume, as Mn)		1		3
7440-21-3	Silicon		10		
7439-98-7	Molybdenum		10		

CAS	Ingredient	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³
7440-03-1	Niobium	NE			
7723-14-0	Phosphorus		0.1		
7704-34-9	Sulphur	NE			
7440-44-0	Carbon (exposure limits are for Particles Not Otherwise Specified)		10		
7440-50-8	Copper (exposure limits are for "Copper fume, as Cu")		0.2		
7440-47-3	Chromium (Chromium, metal)		0.5		
7440-02-0	Nickel (exposure limits are for Nickel, elemental metal)		1 Carc.2		

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.

Engineering controls: No further relevant information available.

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 welding gloves for routine industrial use.

Eye protection:



Wear safety glasses with side shields (or goggles). When these products are used for welding, 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: The following information is for elemental aluminium.

General Information

PRODUCT			
Appearance - Product	Solid Rods with metallic lustre	Physical State - Product	Solid
Odour - Product	Odourless	Odour Threshold	Not Available
ELEMENTAL ALUMINIUM.			
Flammability	Not Available	Flash Point	Not Available
pH	Not Applicable	Auto Igniting	Not Available
Melting point/range	1535°C	Solubility water	Insoluble
Vapour Pressure, mmHg@1284°C	Not Available		
Vapour Density	Not applicable	Density at 20°C (68°F)	Not Applicable
Boiling Point & boiling range	3000°C	Evaporation Rate	Not Available
Freezing/Melting Point	1535°C	Specific Gravity (water = 1)	7.86

10 Stability and reactivity

Stability: Stable.

Decomposition Products: Aluminium compounds and metal oxides.

NOTE: The composition and quality of welding fumes and gases are dependent upon the metal being welded, the process, the procedure, and the electrodes used. Other conditions that could also influence the composition and quantity of fumes and gases to which workers may be exposed include the following: any coatings on metal being welded (e.g. paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality of ventilation, the position of the welder's head with respect to the fume plume, and the presence of other contaminants in the atmosphere. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2 (Composition and Information on Ingredients). Fume and gas decomposition products, and not the ingredients in the electrode, are important. Concentration of the given fume or gas component may decrease or increase by many times the original concentration. New compounds in the electrode may form. Decomposition products of normal operations include not only those originating from volatilization, reaction, or oxidation of the product's components but also those from base metals and any coating (as noted previously). The best method to determine the actual composition of generated fumes and gases is to take an air sample from inside the welder's helmet if worn or in breathing zone. For additional information, refer to the American Welding Society Publication, "Fumes and Gases in the Welding Environment".

Materials with which substance is incompatible: Strong acids, strong oxidizers, halogens, phosphorous.

Hazardous polymerization: Will not occur.

Conditions to avoid: Avoid uncontrolled exposure to extreme temperatures and incompatible materials.

11 Toxicological information

Information on toxicological effects:

Toxicity data: Presented below are toxicological data available for the components of these products present in concentration greater than 1%.

CAS	Name	Oral Toxicity LD50	Intravenous Toxicity LD50	Inhalation Toxicity LD50
7439-89-6	Iron (exposure limits are for iron oxide dust and fume)	Rat 30 mg/kg Guinea Pig 20 mg/kg		
7439-96-5	Manganese (exposure limits are for Manganese, elemental, inorganic compounds, and fume, as Mn)	9 mg/kg Rat		
7440-21-3	Silicon	Rat 3160mg/kg		
7439-98-7	Molybdenum	NE		
7440-03-1	Niobium	Mouse >10mg/kg Rat >10mg/kg		
7723-14-0	Phosphorus	Mouse 4.82mg/kg Rat 3.03mg/kg		
7704-34-9	Sulphur	Rat 8.43mg/kg		
7440-44-0	Carbon (exposure limits are for Particles Not Otherwise Specified)		Rat 440mg/kg	
7440-50-8	Copper (exposure limits are for "Copper fume, as Cu")	0.12mg/kg Human	3.5mg/kg Mouse	
7440-47-3	Chromium (Chromium, metal)	Rat 27.5mg/kg		
7440-02-0	Nickel (exposure limits are for Nickel, elemental metal)	Rat 250mg/kg		

Mutagenicity: These products are not reported to produce mutagenic effects in humans.

Embryo toxicity: These products are not reported to produce embryotoxic effects in humans.

Teratogenicity: These products are not reported to cause teratogenic effects in humans. Clinical studies on test animals exposed to relatively high doses of the Copper component of some of these products indicate teratogenic effects.

Reproductive Toxicity: These products are not reported to cause reproductive effects in humans. Clinical studies on test animals exposed to relatively high doses of the Copper and Titanium components of some of these products indicate adverse reproductive effects.

12 Ecological information

These products are not expected to cause adverse effects on aquatic life.

Ecological data: Presented below are ecological data available for the components of these products present in concentration greater than 1%.

CAS	Name	Result LC50	Species	Exposure
7439-89-6	Iron (exposure limits are for iron oxide dust and fume)	NA		
7439-96-5	Manganese (exposure limits are for Manganese, elemental, inorganic compounds, and fume, as Mn)	>3.6mg/L > 1.6mg/L 2.8mg/L	Fish Crustacea Algae	96 Hours 48 Hours 48 Hours
7440-21-3	Silicon	NA		
7439-98-7	Molybdenum	NA		
7440-03-1	Niobium	NA		
7723-14-0	Phosphorus	>100 mg/L	Daphnia	48 Hours
7704-34-9	Sulphur	>100 mg/L	Fish	96 Hours
7440-44-0	Carbon (exposure limits are for Particles Not Otherwise Specified)			
7440-50-8	Copper (exposure limits are for "Copper fume, as Cu")	58 mg/L	Fish	96 Hours
7440-47-3	Chromium (Chromium, metal)	14.3 mg/L	Carp	96 Hours
7440-02-0	Nickel (exposure limits are for Nickel, elemental metal)	1 mg/L	Daphnia	948 Hours

Environmental stability: The components of these products occur naturally in the environment and are expected to persist in the environment for an extended period of time. Components of these products will react with water and air to form a variety of stable metal oxides.

Effect of material on plants or animals: NA

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.

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	Not Regulated
Environmental hazards: Marine pollutant:	No
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: Stainless Steel Wire or Rods and **Super Missileweld Tig and 99T

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

Poison Schedule:

Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications:

Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Refer to the Australian Inventory of Chemical Substances – AICS at <https://www.nicnas.gov.au/chemicals-on-AICS#main>

Poison schedule: Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). <https://www.legislation.gov.au/Details/F2016L01638>

Classifications: Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

16 Other information

References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Modell Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

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 MATERIAL SAFETY DATA SHEET (M.S.DS.). 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 MSDS. MATERIAL SAFETY DATA SHEETS ARE AVAILABLE FROM HARRIS PRODUCTS GROUP** Harris Products Group, HGE PTY LTD, Brisbane | Melbourne | Perth | New Zealand, 14 Queensland Rd, Darra, QLD 4076, Phone: (07) 3375 3670 | Fax: (07) 3375 3620, Email: sales@hgea.com.au, www.harrisproductsgroup.com.au,

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