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Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Nic-L-Weld 99 & 59

Other means of identification: Coated Metal Alloy

SDS # 0041

Recommended use and restriction on use

Recommended use: Metal Welding

Restrictions on use: No further relevant information available.

Manufacturer/Importer/Supplier/Distributor information

Importer:

Harris Products Group

14 Queensland Rd

Darra, QLD, Australia 4076

(07) 33753670

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

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

Poisons Information Centre/Helpline (24 hours) Australia 13 11 26

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

The product is classified as hazardous according to the Globally Harmonized System (GHS)

EMERGENCY OVERVIEW: This product consists of coated rods with no odour. There are no immediate health hazards associated with the wire or rod product. This product is not reactive. If involved in a fire, this product may generate irritating iron, nickel, and manganese fumes and a variety of metal compounds. Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.

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

Not Classified as a Human Carcinogen.

Nickel (a component of this product) is a potential skin and respiratory sensitizer, causing symptoms such as asthma, rashes, welts, and conjunctivitis in susceptible individuals. **Carcinogen Category: 2**

GHS Classification(s)

Health - Sensitivity: Category 1

Skin corrosion/irritation: 0

Acute Toxicity: 0

Specific target organ toxicity, single exposure: 0

Nickel: Carcinogen Category: 2

Label elements

Signal word

Warning

Hazard Statement(s)

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

INHALATION: Inhalation is not anticipated to be a significant route of over-exposure to the wire or rods. Inhalation of large amounts of iron generated by this product during metal processing operations, may result in iron pneumoconiosis (i.e., arc welder's lung, a disorder of the lungs). Repeated over-exposures, via inhalation, to the dusts or fumes generated by this product may have adverse effects on the lungs, with possible pulmonary Edema and emphysema (life-threatening lung injuries). Hypersensitivity to Nickel (a component of this product) is common and can cause pulmonary asthma and pneumonitis (an inflammatory disease of the lungs).

CONTACT WITH SKIN or EYES: Contact of the rod form of this product with the skin is not anticipated to be irritating. Contact with the rod form of this product can be physically damaging to the eye. Fumes generated during welding operations can be irritating to the skin and eyes. Prolonged exposure of the eyes to fumes generated by this product may result in sensitization, causing conjunctivitis (inflammation of the mucous membranes of the eyes). Symptoms of skin over-exposure may include irritation and redness; prolonged or repeated skin over-exposures may lead to dermatitis. Contact with the molten core rods will burn contaminated skin or eyes.

SKIN ABSORPTION: Skin absorption is not a significant route of over-exposure for any component of this product.

INGESTION: Ingestion is not anticipated to be a route of occupational exposure for this product.

INJECTION: Though not a likely route of occupational exposure for this product, injection (via punctures or lacerations in the skin) may cause local reddening, tissue swelling, and discomfort.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Symptoms associated with over-exposure to this product and the fumes generated during welding operations are as follows:

ACUTE: The chief acute health hazard associated with this product would be the potential for irritation of contaminated skin and eyes when exposed to fumes during welding operations. Inhalation of large amounts of iron dust generated by this product can result in iron pneumoconiosis (i.e., disease of the lungs). Contact with the molten material will burn contaminated skin or eyes.

CHRONIC: Chronic skin over-exposure to the fumes of this product during welding operations may produce dermatitis (red, inflamed skin). Repeated over-exposures to the fumes generated by this product via inhalation can have adverse effects on the lungs with possible pulmonary Edema and emphysema. Repeated or prolonged ingestion exposures to > 50-100 mg of Iron per day can result in deposition of iron in the body tissues. Nickel (a component of this product) is potentially carcinogenic to humans. Hypersensitivity to Nickel is common and can cause allergic contact dermatitis, pulmonary asthma, conjunctivitis, and inflammatory reactions.

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

Storage Statement(s): Store Locked Up

Disposal Statement(s): Dispose of contents/container in accordance with relevant regulations.

Other Hazards No information provided

Additional information:**Other hazards which do not result in GHS classification:**

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.

Hazard description:

WHMIS-symbols: Not hazardous under WHMIS.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture: consisting of the following components.

Sustances/Mixtures		
CAS	Ingredient	Proportion
7439-89-6	Iron	30-60%
7440-02-0	Nickel, elemental metal	30-60%
7439-96-5	Manganese	1-5%
7787-32-8	Barium Fluoride	1-5%

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.

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 SDS to health professional with victim.

Inhalation:

If fumes generated by welding operations involving this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Skin contact:

If fumes generated by welding operations involving this product 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 contact:

If fumes generated by welding operations involving this product 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.

Ingestion:

For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). 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 this product.

Information for doctor: Treat Symptomatically

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

Flash Point: Not flammable

Autoignition Temperature: Not flammable

Extinguishing media

Use an extinguishing agent suitable for the surrounding fire. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Halons.

Special hazards arising from the substance or mixture

When involved in a fire, this material may decompose and produce irritating fumes containing iron, manganese, and nickel compounds. The molten material can present a significant thermal hazard to firefighters.

Special fire-fighting procedures: Not Applicable

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

Ensure adequate ventilation when welding – with regards to fumes

Environmental precautions:

Not applicable

Methods and material for containment and cleaning up:

Not applicable

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:

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Use ventilation and other engineering controls to minimize potential exposure to this product.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Use in a well-ventilated location. Avoid breathing fumes of this product during welding operations. Packages of this product must be properly labelled.

Store packages in a cool, dry location. Storage in an atmosphere that is wet, moist, or high humidity may lead to corrosion of this product. Store away from incompatible materials (see Section 10, Stability and Reactivity). When this product is used during welding operations, follow the requirements of the Federal Occupational Safety and Health Welding and Cutting Standard (29 CFR 1910 Subpart Q) and the safety standards of the American National Standards Institute for welding and cutting (ANSI Z49.1).

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Not applicable.

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.

Exposure Standards					
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 as Fe				
7440-02-0	Nickel, elemental metal		1		
7439-96-5	Manganese – Exposure limits are for Manganese, elemental and inorganic compounds, and fume as Mn		1		3
7787-32-8	Barium Fluoride – Exposure limits are Barium soluble compounds, as Ba		0.5		

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:

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

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in Section 2 (Composition and Information on Ingredients). Prudent practice is to ensure eyewash/safety shower stations are available near areas where this product is used.

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.

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	Rods	Physical State	Solid
Odour	No Odour	Flammability	Not Available
Odour Threshold	Not Available	Flash Point	Not Available
pH	Not Applicable	Auto Igniting	Not Available
		Solubility water	Insoluble
Vapour Pressure, mmHg@980°C	Not Available	Flash Point	Not Available
Vapour Density	Not Available	Density at 20°C (68°F)	Not Applicable
Boiling Point & boiling range	3000°C	Evaporation Rate	Not Available
Freezing/Melting Point	1536°C	Specific Gravity (water = 1)	7.86

The following information is for **Nickel**, a main component of this product:

Appearance	Rods	Physical State	Solid
Odour	No Odour	Flammability	Not Available
Odour Threshold	Not Available	Flash Point	Not Available
pH	Not Applicable	Auto Igniting	Not Available
		Solubility water	Insoluble
Vapour Pressure, mmHg@1810°C	1	Flash Point	Not Available
Vapour Density	Not Available	Density at 20°C (68°F)	Not Applicable
Boiling Point & boiling range	2920°C	Evaporation Rate	Not Available
Freezing/Melting Point	1455°C	Specific Gravity (water = 1)	8.90

10 Stability and reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

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: Uncontrolled exposure to extreme temperatures, incompatible materials.

Incompatible materials: This product is not compatible with strong acids, oxidizers, halogens, and phosphorous. **Nickel** (a component of this product) is not compatible with fluoride, hydrazine, performic acid, selenium, and sulphur.

Hazardous decomposition products: Will not occur.

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

Presented below are human toxicological data available for the components of this product present in concentration greater than 1%.

Toxicity				
CAS	Ingredient	Oral Toxicity LD50	Intravenous Toxicity LD50	Inhalation Toxicity LD50
7439-89-6	Iron	Rat 30 mg/kg		
7440-02-0	Nickel, elemental metal		Rat 250 mg/kg	
7440-02-0	Nickel Fumes	Rat 5 mg/kg		
7439-96-5	Manganese	Rat 9 mg/kg		
7787-32-8	Barium Fluoride	Rat 250 mg/kg	Mouse 29.91 mg/kg	

Information on toxicological effects:

Acute toxicity:

This product's dusts or fumes may be irritating to contaminated skin and eyes. Fumes may be irritating to the respiratory system.

Sensitization to the product: **Nickel** (a component of this product) is a potential skin and respiratory sensitizer, causing symptoms such as asthma, rashes, welts, and conjunctivitis in susceptible individuals.

Carcinogenicity:

Welding fume is classified as possibly carcinogenic to humans (IARC Group 2B).

Mutagenicity: This product is not reported to produce mutagenic effects in humans. Animal mutation data are available for Nickel (a component of this product); these data were obtained during clinical studies on specific animal tissues exposed to high doses of this compound.

Embryo toxicity: **This product is not reported to produce embryotoxic effects in humans.**

Teratogenicity: This product is not reported to cause teratogenic effects in humans. Studies on test animals exposed to relatively high doses of Nickel and Barium Fluoride (components of this product) indicate teratogenic effects.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

Biological exposure indices: Currently, there are no Biological Exposure Indices (BEIs) determined for the components of this product.

12 Ecological information

Environmental stability: The components of this product occur naturally in the environment and are expected to persist in the environment for an extended period of time. Iron, nickel, and manganese will react with water and air to form a variety of stable metal oxide compounds. Environmental data are available for the components of this product as follows:

Nickel: Water solubility: Insoluble. Nickel is stable in air at ordinary temperature and is not affected by water. No data were found to suggest that nickel is involved in any biological transformation in the aquatic environment.

Effect of material on plants or animals: The components of this product occur naturally in the environment and are essential for plant and animal life. Nickel (a component of this product) is extremely toxic to citrus plants. Refer to section 11 (Toxicological Information) for additional data on the effects on animals. Specific data on test animals are available but are not presented in this Safety Data Sheet.

Effect of chemical on aquatic life: This product may cause adverse effects on aquatic life. **Nickel** (a component of this product) is toxic to aquatic life. Exposure of 0.095 ppm of Nickel for 3 weeks to Daphnid and Fathead minnows affected reproduction in these fish.

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:

Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

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	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: Nic-L-Weld 99 & 59

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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