

# MATERIAL SAFETY DATA SHEET (MSDS) WELDINGS ALLOY C-4500

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## COMPANY IDENTIFICATION

REPSUMIN LTDA.  
7:00 a.m. – 5:00 p.m.  
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## I. CHEMICAL PRODUCT

ALLOY C- 4500

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## II. COMPOSITION / INFORMATION ON INGREDIENTS

### PREPARATION:

Core wire: Ni>99%

Hazardous ingredients:

**Important:** This section covers the materials of which the products are manufactured. The fumes and gases produced during normal use of this product are covered in Section V. The term "Hazardous" in "Hazardous Material" should be interpreted as a term required and defined in OSHA Hazard Communication Standard 29CFR 1910-1200 and it does not necessarily imply the existence of hazard. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

INGREDIENTS	CAS#	% RANGE	OSHA PEL mg/m <sup>3</sup>	ACGIH-TLV mg/m <sup>3</sup>	CARCINOGENICITY	R-PHASE
Calcium Carbonate	1317-65-3	1-11	5 (Ca O)	10	NO	
Graphite	7782-42-5	1-11	Not Regstrd.	5	NO	
Potassium Silicate	1312-76-1	1-11	Not Regstrd.	5	NO	
Sodium Silicate	1344-09-8	1-11	Not Regstrd.	5	NO	
Aluminum #	7429-90-5	1-11	5 (as fume)	5 (as fume)	NO	
Calcium Fluoride	7789-75-5	1-11	2.5 (as fume)	2.5 (as fume)	NO	
Nickel #	7440-02-0	35-45	1	1	YES	R40, R43
Iron	7439-89-6	25-35	10 (as Fe)	5 (as Fe)	NO	
Copper	7440-50-8	10-16	.2	.1	NO	

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### III. HAZARD IDENTIFICATION

**Effects of acute exposure:**

**Route(s) of entry:** Inhalation and skin contact.

**Eye and Skin:** when welding, arc rays can injure eyes and burn skin

**Inhalation:** Exposure to nickel containing dust and welding fumes, may cause irritation to upper respiratory tract. May cause respiratory sensitisation in susceptible individuals. Reasonable expected decomposition products from normal use of these products include a complex of the oxides of the materials listed in Section 2, as well as carbon monoxide, carbon dioxide, ozone, and nitrogen oxides (refer to "Characterization of Arc Welding Fume" available from the American Welding Society). **THE TLV FOR MANGANESE (0.02 mg/m3) WILL BE REACHED BEFORE THE GENERAL LIMIT FOR WELDING FUMES OF 5 mg/m3 IS REACHED. MONITOR FUMES FOR MAGANESE LEVELS.** The only way to determine the true identity of the decomposition products is by sampling and analysis. The composition and quantity of the fumes and gases to which a worker may be overexposed can be determined from a sample obtained from inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes." Available from the American Welding Society.

**Ingestion:** Amounts ingested incidental to industrial handling are not likely to cause injury. Single dose oral toxicity is low.

**Effects of chronic exposure:** Refer to section 11 for specific toxicological information.

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### IV. FIRST AID MEASURES

**Inhalation :** Remove victim to fresh air if effects occur.

**Skin:** Wash off with soap and plenty of water.

**Eyes:** Irrigate with water for several minutes

**Ingestion :** Rinse mouth.

**Note to physician:** No particular advice.

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### V. FIRE FIGHTING MEASURES

**Means of extinguishing:** No danger requiring special measures.

**Special protective equipment when fighting fire:** none.

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### VI. ACCIDENTAL RELEASE MEASURES

**Individual precautions :** Avoid dust formation/ breathing dust.

**Environment protection precautions :** No particular indications.

**Cleaning measures:** Remove spoiled product mechanically.

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### VII. HANDLING AND STORAGE

#### HANDLING

With standard transportation equipment.

#### STORAGE

Store in a dry place in closed packages.

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### VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Technical measures:** Use adequate local exhaust for welding fumes.  
Avoid grinding dust inhalation

**Exposure limits:** see section 2.

#### Personal protection:

- **Respiratory protection:** use an air purifying dust respirator.
  - **Hands protection:** wear appropriate gloves to prevent skin contact.
  - **Eyes protection:** welder's helmets.
  - **Skin protection:** wear appropriate overalls to prevent skin or body contact.
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### IX. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** solid.

**Odor:** none

**PH:** non applicable

**Melting point:** 1830-2730° F, 1000-1500° C

**Relative density:** 5-8 g/cm<sup>3</sup>

**Solubility:** insoluble in water

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### X. STABILITY AND REACTIVITY

#### STABILITY

**Conditions to avoid:** not applicable.

**Materials to avoid:** reacts with acids.

**Hazardous decomposition products:** unknown.

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### XI. TOXICOLOGICAL INFORMATION

#### Effects of acute exposure

**Toxicity to animals:** Values LD/LC 50 Nickel > 9 000mg/Kg

**Local effects:** not applicable.

**Inhalation:** not applicable for the product. For welding fumes see section 3.

**Ingestion:** not applicable.

**Contact with skin:** may cause dermatitis in sensitised individuals.

#### CARCINOGENICITY:

Metallic nickel and certain nickel alloys are classified possibly carcinogenic to humans, based on inadequate evidence of effects in humans. While epidemiology studies have demonstrated an increased risk of nasal, lung, and possible risk of laryngeal cancer, the most likely causative agents were nickel subsulfide, nickel sulfide and nickel oxide, with cancer linked principally to the nickel refining process of roasting nickel sulphide ores and not to metallic nickel itself. Evidence implicating metallic nickel and nickel alloys, or the hydrometallurgical nickel refining process as respiratory carcinogens for humans is lacking. Cohort mortality studies of workers in

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industries in which exposure was limited to metallic nickel or the hydrometallurgical process found no association between exposure to metallic nickel and its alloys to the subsequent development of respiratory cancer. Effects of chronic (long-term) overexposure to air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest X-rays. The severity of the change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on X-rays may be caused by non-work factors such as smoking, etc. Nickel and chromium (in some products) are considered carcinogenic. Long term overexposure to nickel fumes may also cause pulmonary fibrosis and edema. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait. The effect of manganese on the nervous system is irreversible.

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### XII. ECOLOGICAL INFORMATION

**About product:** data are unknown

**About ingredients:** data are unknown.

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### XIII. DISPOSAL CONSIDERATIONS

**Product:** For product elimination, consult recycling companies or appropriate local authority.

**Package:** May be disposed in approved landfills provided local regulations are observed.

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### XIV. TRANSPORT INFORMATION

#### INTERNATIONAL REGULATIONS:

**Land shipment:** no hazard

- Rail / route (RID/ADR):

**Sea shipment:** no hazard

**Shipment by air:** no hazard

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### XV. REGULATORY INFORMATION

**Label CEE:** not necessary

**Danger symbols and indications:** Xn

**R-Phrases:** R40:

R43:

**S-Phrases:** S22

S36

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## XVI. OTHER INFORMATION

The information in this document is believed to be correct as of the date issued. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. This information and product are furnished on the condition that the person receiving them shall make his own determinations as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

This Material Safety Data Sheet complies with the EC directives 91/155/EEC and 93/112/EEC Including modifications 2001/58/EC.

Complies with OSHA Communication Standard 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499

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