



SAFETY DATA SHEET

NICKEL ACID - 2080

1. Identification

Product identifier

Product name NICKEL ACID

Product number 2080/5600

Recommended use of the chemical and restrictions on use

Application Industrial Use

Details of the supplier of the safety data sheet

Supplier Canadian Metal – Ad Corporation 42
Regan Road, Unit # 17
Brampton, ON. L7A 1B4
Canada
Tel.: 905-459-6457
E-Mail: info@metalad.ca

Emergency telephone number

Emergency telephone Toll Free: 1-800-899-6926

2. Hazard(s) identification

Classification of the substance or mixture Physical

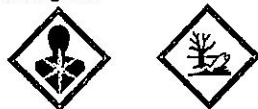
hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Muta. 2 - H341 Carc. 1A - H350 Repr. 1B - H360D STOT RE 1 - H372

Environmental hazards Aquatic Chronic 2 - H411

Label elements

Pictogram



Signal word

Danger

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341
Suspected of causing genetic defects.
H350 May cause cancer.
H360D May damage the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

P260 Do not breathe vapor/ spray.

P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 If on skin: Wash with plenty of water.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing. P501

Dispose of contents/ container in accordance with national regulations.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P310 If swallowed: Immediately call a poison center/ doctor.

Contains

NICKEL SULPHATE, NICKEL FORMATE

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

<p>NICKEL SULPHATE 15-20%</p> <p>CAS number: 7786-81-4 M</p> <p>factor (Acute) = 1 M factor (Chronic) = 1</p>
<p>Classification</p> <p>Acute Tox. 4 - H302</p> <p>Acute Tox. 4 - H332</p> <p>Skin Irrit. 2 - H315</p> <p>Resp. Sens. 1 - H334</p> <p>Skin Sens. 1 - H317</p> <p>Muta. 2 - H341</p> <p>Carc. 1A - H350i</p> <p>Repr. 1B - H360D</p> <p>STOT RE 1 - H372</p> <p>Aquatic Acute 1 - H400</p> <p>Aquatic Chronic 1 - H410</p>
<p>NICKEL FORMATE 5-10%</p> <p>CAS number: 3349-06-2 M</p> <p>factor (Acute) = 1 M factor (Chronic) = 1</p>
<p>Classification</p> <p>Resp. Sens. 1 - H334</p> <p>Skin Sens. 1 - H317</p> <p>Muta. 2 - H341</p> <p>Carc. 1A - H350i</p> <p>Repr. 1B - H360D</p> <p>STOT RE 1 - H372</p> <p>Aquatic Acute 1 - H400</p> <p>Aquatic Chronic 1 - H410</p>

NICKEL ACID

CITRIC ACID

5-10%

CAS number: 77-92-9

Classification Eye

Irrit. 2 - H319

The full text for all hazard statements is displayed in Section 16.

4. First-aid measuresDescription of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Get medical attention immediately.
Skin Contact	Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation	Toxic: danger of serious damage to health by prolonged exposure through inhalation. Coughing, chest tightness, feeling of chest pressure.
Ingestion	Toxic: danger of serious damage to health by prolonged exposure if swallowed. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. May cause stomach pain or vomiting.
Skin contact	May cause skin irritation. May cause sensitization or allergic reactions in sensitive individuals. Prolonged contact may cause redness, irritation and dry skin.
Eye contact	May cause blurred vision and serious eye damage. Causes serious eye irritation. Immediate first aid is imperative.

Indication of immediate medical attention and special treatment needed - Notes for the doctor No specific recommendations.

5. Fire-fighting measuresExtinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
Use protective equipment appropriate for surrounding materials.

Special protective equipment for firefighters

6. Accidental release measuresPersonal precautions, protective equipment and emergency procedures

NICKEL ACID

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapors. Provide adequate general and local exhaust ventilation.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage**Precautions for safe handling**

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists. Provide adequate general and local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight.

Storage class Toxic storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection**Control parameters Occupational****exposure limits NICKEL****SULPHATE**

Long-term exposure limit (8-hour TWA): ACGIH 0.1 mg/m³ as Ni

A4

ACGIH = American Conference of Governmental Industrial Hygienists. A4 = Not Classifiable as a Human Carcinogen.

Exposure controls Protective**equipment**

Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection

Tight-fitting safety glasses.

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Hand protection	It is recommended that chemical-resistant, impervious gloves are worn. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Nitrile rubber.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.
Environmental exposure controls	Keep container tightly sealed when not in use.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Green.
Odor	No characteristic odor.
pH	pH (concentrated solution): 2.2-2.6
Evaporation rate	No information available.
Relative density	1.27-1.30 @ 20°C
Other information	Not available.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Not determined.
Conditions to avoid	Avoid excessive heat for prolonged periods of time.
Materials to avoid	Strong alkalis.
Hazardous decomposition products	None at ambient temperatures.

11. Toxicological information

Information on toxicological effects Acute

toxicity - oral

ATE oral (mg/kg)	3,311.26
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Acute toxicity - inhalation

ATE Inhalation (dusts/mists	mg/l) 16.42
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NICKEL ACID

Inhalation	Vapors irritate the respiratory system.
Ingestion	Toxic if swallowed. May cause stomach pain or vomiting. May cause severe internal injury. Skin Contact
contact	May cause skin irritation. May cause sensitization or allergic reactions in sensitive individuals. Eye
Acute and chronic health hazards	May cause serious eye damage. Immediate first aid is imperative.
	May cause cancer. May cause genetic defects.
Route of entry	Ingestion Inhalation Skin and/or eyecontact

Toxicological information on Ingredients.NICKEL SULPHATEAcute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 361.9

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - inhalation

Acute toxicity inhalation 2.48
(LC₅₀ dust/mist mg/l)

Species Rat

ATE inhalation 2.48
(dusts/mists mg/l)

CITRIC ACIDAcute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 11,700.0

Species Rabbit

12. Ecological Information

Ecotoxicity	Dangerous for the environment. May cause long-term adverse effects in the aquatic environment.
Toxicity	No data available.

Ecological information on ingredients.NICKEL SULPHATEAcute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

NICKEL FORMATEAcute aquatic toxicityLE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hour: 18.95 mg/l, Pimephales promelas (Fat-head Minnow) Chronicaquatic toxicity

M factor (Chronic) 1

CITRIC ACIDAcute toxicity - fish LC₅₀, 96 hour: 440-706 mg/l, Carassius auratus (Goldfish)Persistence and degradability

Persistence and degradability No data available.

Bioaccumulative potential

Bio-Accumulative Potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil

Mobility The product is soluble in water.

Other adverse effects

Other adverse effects Not determined.

13. Disposal considerationsWaste treatment methods

General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

14. Transport informationUN Number

UN No. (TDG) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (DOT) 3082

UN proper shipping name

Proper shipping name (TDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULPHATE) Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULPHATE) Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULPHATE) Proper shipping name (DOT) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULPHATE)

Transport hazard class(es)

TDG class 9

TDG label(s) 9

NICKEL ACID

IMDG Class 9
ICAO class/division 9



Transport labels

Packing group

TDG Packing Group III
IMDG packing group III
ICAO packing group III
DOT packing group III

Environmental hazards Environmentally

Hazardous Substance



Special precautions for user

EmS F-A, S-F

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information required.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities Exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA) Nickel
Sulphate
Final CERCLA RQ: 100 lbs

SARA Extremely Hazardous Substances EPCRA Reportable Quantities Exempt.

SARA 313 Emission Reporting
Nickel Sulphate

CAA Accidental Release Prevention HAP
Nickel Sulphate

SARA (311/312) Hazard Categories Acute
Chronic

OSHA Highly Hazardous Chemicals
Exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins Nickel

Formate

Nickel Sulphate

California Directors List of Hazardous Substances Nickel

Sulphate

Inventories

US - TSCA

All ingredients are present.

16. Other information

Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Carc. = Carcinogenicity Eye Dam. = Serious eye damage Eye Irrit. = Eye irritation Flam. Liq. = Flammable liquid Muta. = Germ cell mutagenicity Repr. = Reproductive toxicity Resp. Sens. = Respiratory sensitisation Skin Corr. = Skin corrosion Skin Irrit. = Skin irritation Skin Sens. = Skin sensitisation STOT RE = Specific target organ toxicity-repeated exposure STOT SE = Specific target organ toxicity-single exposure
Revision date	10/16/2017
Revision	4
Hazard statements in full	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341 Suspected of causing genetic defects. H350 May cause cancer. H350i May cause cancer by inhalation. H360D May damage the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.
NFPA - Instability hazard	Normally stable. (0)
NFPA - health hazard	Extremely hazardous, serious injury. (3)
NFPA - flammability hazard	Will not burn. (0)

The information in this data sheet is believed to be correct but neither we nor our employees or agents give any warranty or make any representation to the accuracy thereof and accept no liability for any loss, injury or damage which may result in its use. The sole purpose of this data sheet is to provide guidance on the safe handling and use of the products to which it relates. It does not form part of any product specification nor part of any contract. It is not practical for the guidance and information in this data sheet to cover every conceivable application of a product and as we may not be aware of the use to which the products covered by this data sheet are to be put it remains the responsibility of the user to conduct its own tests and to satisfy itself as to the suitability of the product.