



**SAFETY DATA SHEET
NICKEL XHB**

1. Identification

Product identifier

Product name NICKEL XHB

Product number 5646

Recommended use of the chemical and restrictions on use

Application Industrial Use

Details of the supplier of the safety data sheet

Supplier SIFCO Applied Surface Concepts
5708 E. Schaaf Road
Independence, Ohio 44131
U.S.A.
Tel.: +1 216-524-0099
Fax: +1 216-524-6331
E-Mail: info@sifcoasc.com

Emergency telephone number

Emergency telephone CHEMTREC (United States) (800) 424-9300; CHEMTREC (International) +1 703-527-3887

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 - H360FD 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.
H360FD May damage fertility. 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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AMMONIUM CITRATE	1-5%
CAS number: 3458-72-8	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 STOT SE 3 - H335	
POTASSIUM FORMATE	1-5%
CAS number: 590-29-4	
Classification Not Classified	
AMMONIUM FORMATE	1-5%
CAS number: 540-69-2	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335	
MALONIC ACID	<1%
CAS number: 141-82-2	
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335	
BORIC ACID	<1%
CAS number: 10043-35-3	
Classification Repr. 1B - H360FD	

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

4. First-aid measures

Description 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.

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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 measures

Extinguishing 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.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

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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

BORIC ACID

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ inhalable fraction

Short-term exposure limit (15-minute): ACGIH 6 mg/m³ inhalable fraction

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.

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.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance

Liquid.

Color

Blue-green.

Odor

No characteristic odor.

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pH	pH (concentrated solution): 7.5-8.0
Relative density	1.177-1.181 @ 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. Avoid the following conditions: Mixing with any other material.
Possibility of hazardous reactions	Not determined.
Conditions to avoid	Avoid excessive heat for prolonged periods of time.
Materials to avoid	Strong acids.
Hazardous decomposition products	None at ambient temperatures.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 22,985.07462687

Acute toxicity - inhalation

ATE inhalation (dusts/mists mg/l) 22.3880597

Inhalation	Vapors irritate the respiratory system.
Ingestion	Toxic if swallowed. May cause stomach pain or vomiting. May cause severe internal injury.
Skin Contact	May cause skin irritation. May cause sensitization or allergic reactions in sensitive individuals.
Eye contact	May cause serious eye damage. Immediate first aid is imperative.
Acute and chronic health hazards	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.
Route of entry	Ingestion Inhalation Skin and/or eye contact
Target Organs	Skin Eyes Respiratory system, lungs

Toxicological information on ingredients.

AMMONIUM SULPHATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 4,250.0

Species Rat

Acute toxicity - dermal

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Acute toxicity dermal (LD₅₀ 2,000.0 mg/kg)

Species Rat

NICKEL DIHYDROXIDE**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 1,540.0 mg/kg)

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - inhalation

ATE inhalation (dusts/mists mg/l) 1.5

Carcinogenicity

NTP carcinogenicity Reasonably anticipated to be a human carcinogen.

AMMONIUM FORMATE**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 2,250.0 mg/kg)

Species Mouse

ATE oral (mg/kg) 2,250.0

MALONIC ACID**Acute toxicity - oral**

ATE oral (mg/kg) 500.0

BORIC ACID**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 4,100.0 mg/kg)

Species Rat

Reproductive toxicity

Reproductive toxicity - fertility Suspected of damaging fertility.

12. Ecological Information

Ecotoxicity The product contains a substance which may have hazardous effects on the environment.

Toxicity No data available.

Ecological information on ingredients.**AMMONIUM SULPHATE**

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Acute toxicity - fish LC₅₀, 53 hours: mg/l, Fish
 EC₅₀, 122-129 hours: 48 mg/l, Daphnia magna

NICKEL DIHYDROXIDE**Acute aquatic toxicity**

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

BORIC ACID

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 133 mg/l, Daphnia magna

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 considerations**Waste 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 information**UN 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 DIHYDROXIDE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL DIHYDROXIDE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL DIHYDROXIDE)

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Proper shipping name (DOT) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL DIHYDROXIDE)

Transport hazard class(es)

TDG class 9

TDG label(s) 9

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 Dihydroxide
Final CERCLA RQ: 10 lbs

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Exempt.

SARA 313 Emission Reporting

Nickel Dihydroxide

CAA Accidental Release Prevention

HAP
Nickel Dihydroxide

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SARA (311/312) Hazard Categories

Acute
Chronic

OSHA Highly Hazardous Chemicals

Exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Nickel Dihydroxide

California Directors List of Hazardous Substances

Nickel Dihydroxide

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

10/18/2017

Revision

2

Hazard statements in full

H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 H341 Suspected of causing genetic defects.
 H350 May cause cancer.
 H350i May cause cancer by inhalation.
 H360D May damage the unborn child.
 H360FD May damage fertility. 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)

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NFPA - health hazard Temporary incapacitation, injury. (2)
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 it's 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 it's own tests and to satisfy itself as to the suitability of the product.