

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/25/2009

Reviewed on 06/24/2009

1 Identification of substance:**Product details:****Product name:** Nickel sulfamate hydrate**Stock number:** 89020**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

Nickel sulfamate hydrate (CAS# 13770-89-3), 100%

Identification number(s):**EINECS Number:** 237-396-1**Index number:** 028-018-00-4**3 Hazards identification****Hazard description:**

T Toxic

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 49 May cause cancer by inhalation.

R 61 May cause harm to the unborn child

R 42/43 May cause sensitization by inhalation and skin contact.

R 48/23 Also toxic: danger of serious damage to health by prolonged exposure through inhalation.

R 68 Possible risk of irreversible effects.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	0
REACTIVITY	1

Health (acute effects) = 1

Flammability = 0

Reactivity = 1

GHS label elements**Danger**

3.4/1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

3.6/1B - May cause cancer.

3.7/1A - May damage fertility or the unborn child.

3.9/1 - Causes damage to organs through prolonged or repeated exposure.

3.4/1 - May cause an allergic skin reaction.

3.5/2 - Suspected of causing genetic defects.

**Warning**

4.1/1 - Very toxic to aquatic life with long lasting effects.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapours/spray.

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Product name: Nickel sulfamate hydrate

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Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing should not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use personal protective equipment as required.
 In case of inadequate ventilation wear respiratory protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.
 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
 IF exposed or concerned: Get medical advice/attention.
 Get medical advice/attention if you feel unwell.
 Specific treatment (see label).
 If skin irritation or rash occurs: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 Wash contaminated clothing before reuse.
 Collect spillage.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures**General information** Immediately remove any clothing soiled by the product.**After inhalation**

Supply fresh air and to be sure call for a doctor.
 Supply fresh air. If required, provide artificial respiration. Keep patient warm.
 Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
 Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.**5 Fire fighting measures****Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Nitrogen oxides (NOx)
 Sulfur dioxide (SO2)
 Toxic metal oxide fume

Protective equipment:

Wear self-contained respirator.
 Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.

Additional information:

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****Information for safe handling:**

Keep container tightly sealed.

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Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

No special measures required.

The product is not flammable

Storage**Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Nickel and inorganic compounds, as Ni

	mg/m ³
ACGIH TLV	1.5, A5-inhalable particulate (metal) 0.2, A1-inhalable particulate (insoluble compounds) 0.1, A4-inhalable particulate (soluble compounds)
Austria	Carcinogen
Denmark TWA	0.5
Finland TWA	0.1 (skin) Carcinogen
France VME	1; C3-Carcinogen
Germany	Carcinogen
Hungary	0.005-STEEL; Carcinogen (insoluble compounds)
Japan	1; 2B-Carcinogen
Korea TLV	1.5
Netherlands MAC-TGG	1; Carcinogen 1 (insoluble compounds)
Poland TWA	0.25
Russia	0.05-STEEL
Sweden NGV	0.5 (dust)
Switzerland MAK-W	0.5; Carcinogen
United Kingdom TWA	0.1
USA PEL	1

Additional information: No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Crystalline
Color:	Blue
Odor:	Odorless

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point: Not applicable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined

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Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with Water:	Soluble

10 Stability and reactivity**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Alkali metals

Bases

Dangerous reactions No dangerous reactions known**Dangerous products of decomposition:**

Nitrogen oxides

Sulfur dioxide

Toxic metal oxide fume

11 Toxicological information**Acute toxicity:****Primary irritant effect:****on the skin:** May cause irritation**on the eye:** May cause irritation**Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

Subacute to chronic toxicity:

Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

May cause harm to the unborn child.

NTP-1: Known to be carcinogenic: sufficient evidence from human studies.

12 Ecological information:**Ecotoxicological effects:****Remark:** Very toxic for fish**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

Do not allow material to be released to the environment without proper governmental permits.

Very toxic for aquatic organisms

13 Disposal considerations**Product:****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

DOT regulations:



Hazard class: 9
Identification number: UN3077
Packing group: III
Proper shipping name (technical name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (Nickel sulfamate hydrate)
Label: 9

Land transport ADR/RID (cross-border)



ADR/RID class: 9 (M7) Miscellaneous dangerous substances and articles
Danger code (Kemler): 90
UN-Number: 3077
Packaging group: III
Description of goods: 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel sulfamate hydrate)

Maritime transport IMDG:



IMDG Class: 9
UN Number: 3077
Label: 9
Packaging group: III
EMS Number: F-A,S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (Nickel sulfamate hydrate)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 9
UN/ID Number: 3077
Label: 9
Packaging group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (Nickel sulfamate hydrate)

UN "Model Regulation": UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III
Environmental hazards: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID

15 Regulations

Product related hazard informations:

Hazard symbols:

T Toxic
 N Dangerous for the environment

Risk phrases:

49 May cause cancer by inhalation.
 61 May cause harm to the unborn child
 42/43 May cause sensitization by inhalation and skin contact.
 48/23 Also toxic: danger of serious damage to health by prolonged exposure through inhalation.

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68 Possible risk of irreversible effects.
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:

53 Avoid exposure - obtain special instructions before use.
 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.
 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use:

For use only by technically qualified individuals.
 This product contains nickel and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know act of 1986 and 40CFR372.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

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