

Safety Data Sheet

According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 05/17/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier**Product name:** Nickel (II) hydroxide**Stock number:** 12517**CAS Number:**

12054-48-7

EC number:

235-008-5

Index number:

028-008-00-X

Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency telephone number:**

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazards identification

Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 1B H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

Repr. Cat. 2

R49-61-48/23: May cause cancer by inhalation. May cause harm to the unborn child. Toxic: danger of serious damage to health by prolonged exposure through inhalation.



Xn; Harmful

R20/22-68: Harmful by inhalation and if swallowed. Possible risk of irreversible effects.



Xn; Sensitizing

R42/43: May cause sensitization by inhalation and skin contact.



Xi; Irritant

R38: Irritating to skin.

(Contd. on page 2)

USA

Safety Data Sheet

According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 05/17/2011

Product name: Nickel (II) hydroxide

(Contd. of page 1)



N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Carc. Cat. 1, Muta. Cat. 3

Information concerning particular hazards for human and environment: Not applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07



GHS08

Signal word Danger

Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P285 In case of inadequate ventilation wear respiratory protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:**WHMIS classification**

D2A - Very toxic material causing other toxic effects

**Classification system**

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2
FIRE	0
REACTIVITY	1

Health (acute effects) = 2

Flammability = 0

Reactivity = 1

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances**CAS# Description:**

12054-48-7 Nickel (II) hydroxide

Identification number(s):

EC number: 235-008-5

Index number: 028-008-00-X

- USA

(Contd. on page 3)

Safety Data Sheet
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Product name: Nickel (II) hydroxide

(Contd. of page 2)

4 First aid measures**Description of first aid measures****After inhalation**

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 medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**Extinguishing media****Suitable extinguishing agents**

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

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Toxic metal oxide fume

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

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

Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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****Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires: The product is not flammable

Conditions for safe storage, including any incompatibilities**Storage**

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.

8 Exposure controls/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.

(Contd. on page 4)

- USA -

Safety Data Sheet

According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 05/17/2011

Product name: Nickel (II) hydroxide

(Contd. of page 3)

Control parameters**Components with limit values that require monitoring at the workplace:****12054-48-7 Nickel (II) hydroxide (100.0%)**

REL (USA)	0.015 mg/m ³ as Ni; See Pocket Guide App. A
EL (Canada)	0.05 mg/m ³ as Ni; ACIGH A1, IARC 1

Additional information: No data**Exposure controls****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.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Powder
Color:	Green
Odor:	Odorless
Odor threshold:	Not determined.

pH-value: Not applicable.**Change in condition**

Melting point/Melting range:	230°C (446 °F) (dec)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.

Danger of explosion: Product does not present an explosion hazard.**Explosion limits:**

Lower:	Not determined
Upper:	Not determined

Vapor pressure: Not applicable.**Density at 20°C (68 °F):** 4.1 g/cm³ (34.215 lbs/gal)**Relative density** Not determined.**Vapor density** Not applicable.**Evaporation rate** Not applicable.**Solubility in / Miscibility with****Water at 20°C (68 °F):** 0.13 g/l**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****dynamic:** Not applicable.**kinematic:** Not applicable.**Other information** No further relevant information available.

USA

(Contd. on page 5)

Safety Data Sheet
According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 05/17/2011

Product name: Nickel (II) hydroxide

(Contd. of page 4)

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

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

Possibility of hazardous reactions No dangerous reactions known**Incompatible materials:** Oxidizing agents**Hazardous decomposition products:** Toxic metal oxide fume**11 Toxicological information****Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	1515 mg/kg (rat)
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Primary irritant effect:**on the skin:** Irritating effect.**on the eye:** May cause irritation**Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

Subacute to chronic toxicity: Harmful if inhaled.**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.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

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

Toxic if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Very toxic for aquatic organisms**Additional ecological information:****General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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

May cause long lasting harmful effects to aquatic life.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.

USA

(Contd. on page 6)

Safety Data Sheet
According to OSHA and ANSI






Printing date 01/31/2013

Reviewed on 05/17/2011

Product name: Nickel (II) hydroxide

(Contd. of page 5)

14 Transport information

UN-Number DOT, ADR, IMDG, IATA	UN3077
UN proper shipping name DOT, IMDG, IATA ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel (II) hydroxide) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel (II) hydroxide)
Transport hazard class(es) DOT, IMDG	
	
Class	9 Miscellaneous dangerous substances and articles.
Label ADR	9
 	
Class	9 (M7) Miscellaneous dangerous substances and articles
Label IATA	9
 	
Class	9 Miscellaneous dangerous substances and articles.
Label	9
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards: Marine pollutant: Special marking (ADR): Special marking (IATA):	No Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user	Warning: Miscellaneous dangerous substances and articles
Danger code (Kemler):	90
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel (II) hydroxide), 9, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

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

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

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

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

(Contd. on page 7)

- USA -

Safety Data Sheet
According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 05/17/2011

Product name: Nickel (II) hydroxide

(Contd. of page 6)

Other regulations, limitations and prohibitive regulations
Substances of very high concern (SVHC) according to REACH, Article 57
 Substance is not listed.
REACH - Pre-registered substances Substance is listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 C. Holt
 Global EHS Manager

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 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)
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 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)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

USA