

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/12/2010

Reviewed on 05/11/2010

1 Identification of substance:

Product details:

Product name: Nickel 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Stock number: 42377

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 2-methoxyethoxide (CAS# 142600-62-2): 5%
2-Methoxyethanol (CAS# 109-86-4): 95%

3 Hazards identification

Hazard description:



T Toxic

Information pertaining to particular dangers for man and environment

R 60 May impair fertility
R 61 May cause harm to the unborn child
R 10 Flammable.
R 20/21/22 Also harmful by inhalation, in contact with skin and if swallowed.
R 40 Limited evidence of a carcinogenic effect.
R 43 May cause sensitization by skin contact.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1	Health (acute effects) = 1
FIRE	2	Flammability = 2
REACTIVITY	1	Reactivity = 1

GHS label elements



Danger

3.7/1A - May damage fertility or the unborn child.
3.6/2 - Suspected of causing cancer.



Warning

2.6/3 - Flammable liquid and vapour.



Warning

3.1/4 - Harmful if swallowed.
3.1/4 - Harmful in contact with skin.
3.1/4 - Harmful if inhaled.
3.4/1 - May cause an allergic skin reaction.

Prevention:

Obtain special instructions before use.

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Response:

IF exposed or concerned: Get medical advice/attention.

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 CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents Water

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

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

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

Keep away from ignition sources

Measures for environmental protection:

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

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

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:**

Handle under dry protective gas.

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:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

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.

Store away from water/moisture.

Do not store together with acids.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

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Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.

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:

2-Methoxyethanol (ethylene glycol monomethyl ether)	
	ppm
ACGIH TLV	5 (skin)
Austria MAK	5 (skin)
Belgium TWA	5 (skin)
Denmark TWA	5 (skin)
Finland TWA	25; 40-STEEL (skin)
France VME	5 (skin)
Germany MAK	5 (skin)
Hungary TWA	15 mg/m ³ ; 30 mg/m ³ -STEEL (skin)
Japan OEL	5 (skin)
Korea TLV	5 (skin)
Netherlands MAC-TGG	5 (skin)
Norway TWA	5
Poland TWA	15 mg/m ³ ; 60 mg/m ³ -STEEL
Russia TWA	5
Sweden NGV	5; 10-KTV (skin)
Switzerland MAK-W	5, 10-KZG-W (skin)
United Kingdom TWA	5 (skin)
USA PEL	25 (skin)

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)
Norway TWA	0.05
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.
Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection:

Safety glasses
Tightly sealed goggles
Full face protection

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Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information	
Form:	Liquid
Color:	Clear
Odor:	Characteristic
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	46°C (115°F) (2-Methoxyethanol)
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with Water:	Hydrolyzes

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:

Oxidizing agents

Water/moisture

Acids

Dangerous reactions Possible formation of peroxides.

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Toxic metal oxide fume

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: Sensitization possible through skin contact.

Other information (about experimental toxicology):

Reproductive effects have been observed on tests with laboratory animals.

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.

2-Methoxyethanol (ethylene glycol monomethyl ether) has caused birth defects, bone marrow damage, anemia, fetotoxicity, immunosuppression and damage to the male reproductive system. Acute effects can include nausea, headache and vomiting. Chronic exposure also causes kidney, liver, lung, central nervous system and immune system damage.

Subacute to chronic toxicity:

Glycol ethers may cause irritation to the skin, lungs, and eyes. Congestion and edema in the lungs has been reported. Liver and kidney damage has been reported. Tests with animals have resulted in birth defects, testicular damage and sperm damage. Exposure may cause blood and central nervous system effects. Severe aplastic anemia, macrocytic anemia, and blood platelet reductions have been reported. Central nervous system effects include drowsiness, fatigue, tremors and mental dullness.

Additional toxicological information:

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

Danger through skin absorption.

May impair fertility.

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May cause harm to the unborn child.

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12 Ecological information:

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.

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

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.

14 Transport information

DOT regulations:



Hazard class:

3

Identification number:

UN1188

Packing group:

III

Proper shipping name (technical name): ETHYLENE GLYCOL MONOMETHYL ETHER

Label

3

Land transport ADR/RID (cross-border)



ADR/RID class:

3 (F1) Flammable liquids

Danger code (Kemler):

30

UN-Number:

1188

Packaging group:

III

Description of goods:

1188 ETHYLENE GLYCOL MONOMETHYL ETHER

Maritime transport IMDG:



IMDG Class:

3

UN Number:

1188

Label

3+8

Packaging group:

III

EMS Number:

F-E, S-D

Marine pollutant:

No

Proper shipping name:

ETHYLENE GLYCOL MONOMETHYL ETHER

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class:

3

UN/ID Number:

1188

Label

3+8

Packaging group:

III

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Proper shipping name: ETHYLENE GLYCOL MONOMETHYL ETHER

UN "Model Regulation": UN1188, ETHYLENE GLYCOL MONOMETHYL ETHER, 3, III

15 Regulations

Product related hazard informations:
Hazard symbols:

T Toxic

Risk phrases:

60 May impair fertility

61 May cause harm to the unborn child

10 Flammable.

20/21/22 Also harmful by inhalation, in contact with skin and if swallowed.

40 Limited evidence of a carcinogenic effect.

43 May cause sensitization by skin contact.

Safety phrases:

53 Avoid exposure - obtain special instructions before use.

45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

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

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.

This product contains a glycol ether 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

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

HMIS: Hazardous Materials Identification System (USA)

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