

## 1 Identification

### Product identifier

**Product name:** Nickel 2-ethylhexanoate

**Stock number:** 39457

**CAS Number:**

4454-16-4

**EC number:**

224-699-9

**Index number:**

028-054-00-0

**Relevant identified uses of the substance or mixture and uses advised against.**

**Identified use:** SU24 Scientific research and development

### Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Alfa Aesar

Thermo Fisher Scientific Chemicals, 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 business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

## 2 Hazard(s) identification

### Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



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. 1B H350 May cause cancer.

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

STOT RE 1 H372 Causes damage to the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.



GHS07

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

**Hazards not otherwise classified** No information known.

### Label elements

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

### Hazard pictograms



GHS08

### Signal word

Danger

### Hazard statements

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 the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.

### Precautionary statements

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

P284 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

P405 Store locked up.

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

### WHMIS classification

D2A - Very toxic material causing other toxic effects



### Classification system

**HMIS ratings (scale 0-4)**

**(Hazardous Materials Identification System)**

HEALTH 1 Health (acute effects) = 1

FIRE 1 Flammability = 1

REACTIVITY 1 Physical Hazard = 1

### Other hazards

### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

Product name: **Nickel 2-ethylhexanoate**

(Contd. of page 1)

### 3 Composition/information on ingredients

#### Chemical characterization: Substances

#### CAS# Description:

4454-16-4 Nickel 2-ethylhexanoate

Identification number(s):

EC number: 224-699-9

Index number: 028-054-00-0

### 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 Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing agents** Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

#### Special hazards arising from the substance or mixture

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

Carbon monoxide and carbon dioxide

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:

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

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Prevention of secondary hazards:** No special measures required.

#### 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:** No information known.

#### 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.

#### Control parameters

#### Components with limit values that require monitoring at the workplace:

2-Ethylhexanoic acid

mg/m<sup>3</sup>

ACGIH TLV

5 (inhalable fraction of the aerosol/vapor)

Nickel and inorganic compounds, as Ni

mg/m<sup>3</sup>

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-STEL; Carcinogen (insoluble compounds)

Japan

1; 2B-Carcinogen

Korea TLV

1.5

(Contd. on page 3)  
USA

**Product name: Nickel 2-ethylhexanoate**

(Contd. of page 2)

Netherlands MAC-TGG 1; Carcinogen  
1 (insoluble compounds)  
Norway TWA 0.05  
Poland TWA 0.25  
Russia 0.05-STEL  
Sweden NGV 0.5 (dust)  
Switzerland MAK-W 0.5; Carcinogen  
United Kingdom TWA 0.1  
USA PEL 1

**4454-16-4 Nickel 2-ethylhexanoate (100.0%)**

PEL (USA)	Long-term value: 1 mg/m <sup>3</sup> as Ni
REL (USA)	Long-term value: 0.015 mg/m <sup>3</sup> as Ni; See Pocket Guide App. A
EV (Canada)	Long-term value: 0.1 mg/m <sup>3</sup> Inhalable fraction, as Ni

**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.

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:	Viscous liquid
Color:	Green
Odor:	Not determined
Odor threshold:	Not determined.

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

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

Flash point:	Not applicable
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.
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Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

**10 Stability and reactivity****Reactivity** No information known.**Chemical stability** Stable under recommended storage conditions.**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**Conditions to avoid** No further relevant information available.**Incompatible materials:** Oxidizing agents**Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Metal oxide fume

**11 Toxicological information****Information on toxicological effects****Acute toxicity:** No effects known.**LD/LC50 values that are relevant for classification:** No data**Skin irritation or corrosion:** Irritant to skin and mucous membranes.**Eye irritation or corrosion:** Irritating effect.(Contd. on page 4)  
- USA -

**Product name: Nickel 2-ethylhexanoate**

(Contd. of page 3)

**Sensitization:**

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

May cause an allergic skin reaction.

**Germ cell mutagenicity:** Suspected of causing genetic defects.

**Carcinogenicity:**

May cause cancer.

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

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

**Reproductive toxicity:** May damage fertility or the unborn child.

**Specific target organ system toxicity - repeated exposure:**

Causes damage to the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**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-Ethylhexanoic acid causes irritation of the eyes and mucous membranes. Irritation may be severe. Causes reproductive effects in laboratory animals.

**Subacute to chronic toxicity:** No effects known.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**12 Ecological information**

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**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 material to be released to the environment without proper governmental permits.

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.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

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.

**14 Transport information**

Not a hazardous material for transportation.

**UN-Number**

**DOT, IMDG, IATA** None

**UN proper shipping name**

**DOT, IMDG, IATA** None

**Transport hazard class(es)**

**DOT, ADR, IMDG, IATA** None

**Class**

**Class** None

**Packing group**

**DOT, IMDG, IATA** None

**Environmental hazards:**

Environmentally hazardous substance, liquid

**Special precautions for user**

Not applicable.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**Transport/Additional information:** Not dangerous according to the above specifications.

**DOT**

**Marine Pollutant (DOT):** No

**15 Regulatory information**

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

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**



GHS08

**Signal word** Danger

**Hazard statements**

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 the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.

(Contd. on page 5)  
USA

**Product name: Nickel 2-ethylhexanoate**

(Contd. of page 4)

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P284 In case of inadequate ventilation wear respiratory protection.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**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).

**SARA Section 313 (specific toxic chemical listings)**

4454-16-4 Nickel 2-ethylhexanoate

**California Proposition 65**

**Prop 65 - Chemicals known to cause cancer**

4454-16-4 Nickel 2-ethylhexanoate

**Prop 65 - Developmental toxicity** Substance is not listed.  
**Prop 65 - Developmental toxicity, female** Substance is not listed.  
**Prop 65 - Developmental toxicity, male** Substance is not listed.

**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.

**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not 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 SDS:** Global Marketing Department

**Date of preparation / last revision** 11/23/2015 / -

**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)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
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  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)