

**1 Identification****Product identifier****Product name:** Ethyl carbamate**Stock number:** 44804**CAS Number:**

51-79-6

**EC number:**

200-123-1

**Index number:**

607-149-00-6

**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

Carc. 1A H350 May cause cancer.

**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**

H350 May cause cancer.

**Precautionary statements**

P281 Use personal protective equipment as required.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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 2 Health (acute effects) = 2

FIRE 2 Flammability = 2

REACTIVITY 1 Physical Hazard = 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:**

51-79-6 Ethyl carbamate

**Identification number(s):****EC number:** 200-123-1**Index number:** 607-149-00-6**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.

**Product name: Ethyl carbamate**

(Contd. of page 1)

**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  
 Nitrogen oxides (NOx)  
**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 of contaminated material as waste according to section 13.  
**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:** Not required.  
**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.  
**Penetration time of glove material (in minutes)** Not determined  
**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:** Crystalline  
**Color:** White  
**Odor:** Not determined  
**Odor threshold:** Not determined.  
**pH-value:** Not applicable.  
**Change in condition**  
**Melting point/Melting range:** 47-51 °C (117-124 °F)  
**Boiling point/Boiling range:** 182-184 °C (360-363 °F)  
**Sublimation temperature / start:** Not determined  
**Flash point:** Not applicable  
**Flammability (solid, gaseous)** Not determined.

(Contd. on page 3)  
USA

**Product name: Ethyl carbamate**

(Contd. of page 2)

**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:** Not determined  
**Relative density** Not determined.  
**Vapor density** Not applicable.  
**Evaporation rate** Not applicable.

**Solubility in / Miscibility with Water:** Not determined  
**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**  
**dynamic:** Not applicable.  
**kinematic:** Not applicable.  
**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

Nitrogen oxides

**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.

**Sensitization:** No sensitizing effects known.

**Germ cell mutagenicity:** No effects known.

**Carcinogenicity:**

May cause cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

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

**Reproductive toxicity:** No effects known.

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

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

**Aspiration hazard:** No effects known.

**Other information (about experimental toxicology):**

Tumorigenic effects have been observed on tests with laboratory animals.

Reproductive effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Mutagenic effects have been observed on tests with insects.

Mutagenic effects have been observed with human fibroblast.

Mutagenic effects have been observed on tests with human lymphocytes.

Mutagenic effects have been observed on tests with laboratory animals.

**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Gastrointestinal - peritonitis.

Brain and Coverings - other degenerative changes.

Endocrine - hyperglycemia.

Endocrine - other changes.

Endocrine - changes in spleen weight.

Endocrine - changes in thymus weight.

Skin and Appendages - tumors.

Immunological including Allergic - decreased immune response.

Immunological including Allergic - decrease in cellular immune response.

Vascular - tumors.

Behavioral - sleep.

Behavioral - general anesthetic.

Behavioral - food intake (animal).

Liver - changes in liver weight.

Liver - tumors.

Kidney, Ureter, Bladder - changes in bladder weight.

Kidney, Ureter, Bladder - other changes.

Lungs, Thorax, or Respiration - other changes.

Lung, Thorax, or Respiration - changes in lung weight.

Lungs, Thorax, or Respiration - tumors.

Lungs, Thorax, or Respiration - bronchiogenic carcinoma.

Blood - other changes.

Blood - lymphoma, including Hodgkin's disease.

Blood - changes in leukocyte (WBC) count.

Blood - changes in spleen.

Sense Organs and Special Senses - tumors.

Sense Organs and Special Senses (Ear) - effect, not otherwise specified.

Related to Chronic Data - death.

Reproductive - Tumorigenic effects - transplacental tumorigenesis.

Reproductive - Tumorigenic effects - ovarian tumors.

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).

Reproductive - Specific Developmental Abnormalities - musculoskeletal system.

Reproductive - Fertility - post-implantation mortality (e.g. dead/or resorbed implants per total number of implants).

Reproductive - Fertility - other measures of fertility.

Reproductive - Paternal Effects - spermatogenesis (including genetic material, sperm morphology, motility, and count).

(Contd. on page 4)

**Product name: Ethyl carbamate**

(Contd. of page 3)

Reproductive - Fertility - litter size (e.g. # fetuses per litter; measured before birth).  
 Reproductive - Effects on Newborn - live birth index (measured after birth)  
 Reproductive - Effects on Newborn - viability index (e.g., # alive at day 4 per # born live).  
 Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain).  
 Reproductive - Tumorigenic effects - other reproductive system tumors.  
 Reproductive - Maternal Effects - menstrual cycle changes or disorders.  
 Reproductive - Maternal Effects - ovaries, fallopian tubes.  
 Reproductive - Effects on Embryo or Fetus - fetal death.  
 Reproductive - Effects on Newborn - biochemical and metabolic.  
 Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue).  
 Reproductive - Specific Developmental Abnormalities - respiratory system.  
 Reproductive - Specific Developmental Abnormalities - hepatobiliary system.  
 Reproductive - Effects on Newborn - stillbirth.  
 Reproductive - Specific Developmental Abnormalities - eye/ear.  
 Reproductive - Specific Developmental Abnormalities - immune and reticuloendothelial system  
 Reproductive - Specific Developmental Abnormalities - blood and lymphatic systems (including spleen and marrow).  
 Reproductive - Specific Developmental Abnormalities - immune and reticuloendothelial system  
 Reproductive - Specific Developmental Abnormalities - Central Nervous System.  
 Reproductive - Specific Developmental Abnormalities - urogenital system.  
 Reproductive - Effects on Embryo or Fetus - cytological changes (including somatic cell genetic material)  
 Reproductive - Specific Developmental Abnormalities - skin and skin appendages.  
 Reproductive - Specific Developmental Abnormalities - cardiovascular (circulatory) system.  
 Tumorigenic - neoplastic by RTECS criteria.  
 Tumorigenic - carcinogenic by RTECS criteria.  
 Tumorigenic - increased incidence of tumors in susceptible strains.  
 Tumorigenic - equivocal tumorigenic agent by RTECS criteria.  
 Tumorigenic - tumor types after systemic administration not seen spontaneously.  
 Tumorigenic - facilitates action of known carcinogen  
**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.  
**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.  
 Avoid transfer into the environment.  
**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.

<b>UN-Number</b> DOT, IMDG, IATA	None
<b>UN proper shipping name</b> DOT, IMDG, IATA	None
<b>Transport hazard class(es)</b> DOT, ADR, IMDG, IATA Class	None
<b>Packing group</b> DOT, IMDG, IATA	None
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
<b>DOT</b> <b>Marine Pollutant (DOT):</b>	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**  
 H350 May cause cancer.

(Contd. on page 5)  
USA

**Product name: Ethyl carbamate**

(Contd. of page 4)

**Precautionary statements**

- P281 Use personal protective equipment as required.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- 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)**

51-79-6 Ethyl carbamate

**California Proposition 65**

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

51-79-6 Ethyl carbamate

**Prop 65 - Developmental toxicity**

51-79-6 Ethyl carbamate

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

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

**Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

For use only by technically qualified individuals.

This substance is subject to a Significant New Use Rule (SNUR) promulgated under Section 5(a)(2) of the Toxic Substances Control Act (TSCA). See 40 CFR 721.

This product is being sold for research and development use.

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.

**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:**

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)