

**1 Identification**

**Product identifier**

**Product name:** Methyl Red, 0.1% w/v solution in ethanol

**Stock number:** 38698

**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)**

 GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

 GHS08 Health hazard

STOT SE 1 H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalation, Dermal.  
**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**



GHS02 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Methanol

**Hazard statements**

H225 Highly flammable liquid and vapor.

H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalation, Dermal.

**Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P280 Wear protective gloves / eye protection / face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**WHMIS classification**

B2 - Flammable liquid

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	3	Flammability = 3
REACTIVITY	1	Physical Hazard = 1

**Other hazards**

**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**3 Composition/information on ingredients**

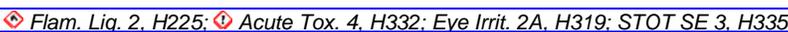
**Chemical characterization: Mixtures**

**Dangerous components:**

64-17-5 Ethanol		Flam. Liq. 2, H225	86.0%
67-56-1 Methanol		Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	13.0%

**Additional information** None known.

**Non-Hazardous Ingredients**

108-10-1 4-Methyl-2-pentanone		Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2A, H319; STOT SE 3, H335	0.9%
493-52-7 2-(4-Dimethylaminophenylazo)benzoic acid			0.1%

Product name: **Methyl Red, 0.1% w/v solution in ethanol**

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#### 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** Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalation, Dermal.

**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

Keep away from ignition sources

**Environmental precautions:** Do not allow product to reach sewage system or any water course.

##### 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:** Keep away from ignition sources.

##### 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.

##### Protective Action Criteria for Chemicals

##### PAC-1:

64-17-5	Ethanol	1,800 ppm
67-56-1	Methanol	530 ppm
108-10-1	4-Methyl-2-pentanone	75 ppm

##### PAC-2:

64-17-5	Ethanol	3300* ppm
67-56-1	Methanol	2,100 ppm
108-10-1	4-Methyl-2-pentanone	500 ppm

##### PAC-3:

64-17-5	Ethanol	15000* ppm
67-56-1	Methanol	7200* ppm
108-10-1	4-Methyl-2-pentanone	3000* ppm

#### 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.

Prevent formation of aerosols.

##### Information about protection against explosions and fires:

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away.

##### Conditions for safe storage, including any incompatibilities

##### Storage

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

**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:

##### 64-17-5 Ethanol (86.0%)

PEL (USA) Long-term value: 1900 mg/m<sup>3</sup>, 1000 ppm

REL (USA) Long-term value: 1900 mg/m<sup>3</sup>, 1000 ppm

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TLV (USA)	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1.900 mg/m <sup>3</sup> , 1.000 ppm

**67-56-1 Methanol (13.0%)**

PEL (USA)	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
REL (USA)	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (USA)	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI
EL (Canada)	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV (Canada)	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin

**108-10-1 4-Methyl-2-pentanone (0.9%)**

PEL (USA)	Long-term value: 410 mg/m <sup>3</sup> , 100 ppm
REL (USA)	Short-term value: 300 mg/m <sup>3</sup> , 75 ppm Long-term value: 205 mg/m <sup>3</sup> , 50 ppm
TLV (USA)	Short-term value: 307 mg/m <sup>3</sup> , 75 ppm Long-term value: 82 mg/m <sup>3</sup> , 20 ppm BEI
EL (Canada)	Short-term value: 75 ppm Long-term value: 20 ppm IARC 2B
EV (Canada)	Short-term value: 75 ppm Long-term value: 205 mg/m <sup>3</sup> , 50 ppm

**Ingredients with biological limit values:**

**67-56-1 Methanol (13.0%)**

BEI (USA)	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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**108-10-1 4-Methyl-2-pentanone (0.9%)**

BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
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**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.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

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

**Recommended filter device for short term use:**

Use a respirator with multi-purpose combination (US) or type AXBEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**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.

**Material of gloves:** Butyl rubber, BR

**Eye protection:** Safety glasses with side shields / NIOSH (US) or EN 166(EU)

**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Liquid

**Odor:** Not determined

**Odor threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** Not determined

**Sublimation temperature / start:** Not determined

**Flash point:** 11 °C (52 °F) (Methanol)

**Flammability (solid, gaseous):** Not determined.

**Ignition temperature:** 455 °C (851 °F)

**Decomposition temperature:** Not determined

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

**Explosion limits:**

**Lower:** 5.5 Vol %

**Upper:** 44.0 Vol %

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**Product name: Methyl Red, 0.1% w/v solution in ethanol**

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<b>Vapor pressure at 20 °C (68 °F):</b>	128 hPa (96 mm Hg)
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not determined.
<b>kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	13.9 %
<b>Solids content:</b>	0.1 %
<b>Other information</b>	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** Reacts with strong oxidizing agents  
**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:**  
 Harmful if inhaled.  
 Harmful in contact with skin.  
 Harmful if swallowed.  
 Danger through skin absorption.  
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**

**64-17-5 Ethanol**

Oral	LD50	7060 mg/kg (rat)
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**67-56-1 Methanol**

Oral	LD50	14200 mg/kg (rabbit)
Inhalative	LC50/6H	41000 ppm/6H (mouse)

**108-10-1 4-Methyl-2-pentanone**

Oral	LD50	2080 mg/kg (rat)
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**Skin irritation or corrosion:** May cause irritation  
**Eye irritation or corrosion:** May cause irritation  
**Sensitization:** No sensitizing effects known.  
**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.  
**Carcinogenicity:**  
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.  
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
**Reproductive toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.  
**Specific target organ system toxicity - repeated exposure:** No effects known.  
**Specific target organ system toxicity - single exposure:** Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalation, Dermal.  
**Aspiration hazard:** No effects known.  
**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.  
**Additional toxicological information:**  
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful

**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 undiluted product or large quantities to reach ground water, water course or sewage system.  
 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.

Product name: **Methyl Red, 0.1% w/v solution in ethanol**

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**14 Transport information**

<b>UN-Number</b> DOT, IMDG, IATA	UN1170
<b>UN proper shipping name</b> DOT ADR IMDG IATA	Ethanol solutions 1170 Ethanol solutions ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION
<b>Transport hazard class(es)</b> DOT	
	
<b>Class</b> <b>Label</b> ADR	3 Flammable liquids 3
	
<b>Class</b> <b>Label</b> IMDG, IATA	3 (F1) Flammable liquids 3
	
<b>Class</b> <b>Label</b>	3 Flammable liquids 3
<b>Packing group</b> DOT, ADR, IMDG, IATA	II
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b> EMS Number: Stowage Category	Warning: Flammable liquids F-E,S-D A
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b> DOT	
<b>Marine Pollutant (DOT):</b>	No
<b>UN "Model Regulation":</b>	UN 1170 ETHANOL SOLUTIONS, 3, II

**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**



GHS02 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Methanol

**Hazard statements**

H225 Highly flammable liquid and vapor.

H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalation, Dermal.

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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

P280 Wear protective gloves / eye protection / face protection.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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)**

67-56-1	Methanol	13.0%
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108-10-1	4-Methyl-2-pentanone	0.9%
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**California Proposition 65**

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

108-10-1	4-Methyl-2-pentanone	0.9%
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**Prop 65 - Developmental toxicity**

67-56-1	Methanol	13.0%
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108-10-1	4-Methyl-2-pentanone	0.9%
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**Prop 65 - Developmental toxicity, female**

None of the ingredients are listed.

**Prop 65 - Developmental toxicity, male**

None of the ingredients are listed.

**Information about limitation of use:** For use only by technically qualified individuals.

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USA

**Product name: Methyl Red, 0.1% w/v solution in ethanol**

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**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.**

None of the ingredients are 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.**

None of the ingredients is listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)**

None of the ingredients 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 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/Revision:** Print date, revision date and version number are in the header of each page.

**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)

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

ELINCS: European List of Notified 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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

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)

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity – Category 3

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1