

# Material Safety Data Sheet

## 2-Heptanone, 98%

ACC# 02509

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 2-Heptanone, 98%**Catalog Numbers:** AC154000000, AC154000010, AC154000050, AC154000051, AC154001000, 15400-2500**Synonyms:** Methyl amyl ketone.**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
110-43-0	2-Heptanone	98	203-767-1

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 47 deg C.

**Warning! Flammable liquid and vapor.** May cause eye, skin, and respiratory tract irritation.**Target Organs:** No data found.**Potential Health Effects****Eye:** May cause eye irritation.**Skin:** May cause skin irritation.**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation.**Inhalation:** May cause respiratory tract irritation. Vapors may cause dizziness or suffocation.**Chronic:** Not available.

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Use agent most appropriate to extinguish fire. Do NOT use straight streams of water.

**Flash Point:** 47 deg C ( 116.60 deg F)

**Autoignition Temperature:** 532 deg C ( 989.60 deg F)

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 2; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Flammables-area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2-Heptanone	50 ppm TWA	100 ppm TWA; 465 mg/m <sup>3</sup> TWA 800 ppm IDLH	100 ppm TWA; 465 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** 2-Heptanone: 100 ppm TWA; 465 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** colorless

**Odor:** penetrating odor - fruity odor

**pH:** Not available.

**Vapor Pressure:** 2.6 mmHg @ 20 C

**Vapor Density:** 3.9

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 149.0 - 150.0 deg C @ 760.00m

**Freezing/Melting Point:** -35 deg C

**Decomposition Temperature:** Not available.

**Solubility:** 4.3 g/l (20 c)

**Specific Gravity/Density:** .8200g/cm<sup>3</sup>

**Molecular Formula:** C<sub>7</sub>H<sub>14</sub>O

**Molecular Weight:** 114.19

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, strong oxidants, electrical sparks, exposure to flame.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, bases.

**Hazardous Decomposition Products:** Carbon monoxide, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 110-43-0: MJ5075000

**LD50/LC50:**

CAS# 110-43-0:

Oral, mouse: LD50 = 730 mg/kg;

Oral, rat: LD50 = 1670 mg/kg;

Skin, rabbit: LD50 = 12600 uL/kg;

**Carcinogenicity:**

CAS# 110-43-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: LC50 = 131.0 mg/L; 96 Hr.; Flow-through Bioassay No data available.

**Environmental:** If released to soil, calculated soil adsorption coefficients ranging from 44-285 indicate that 2-heptanone may display moderate to high mobility and it has the potential to leach into groundwater. Heptanone has the potential to biodegrade in soil. If released to water, 2-heptanone is expected to rapidly volatilize to the atmosphere. The half-life for volatilization from a model river 1 m deep, flowing at 1 m/sec with a wind speed of 3 m/sec is 8.4hr.

**Physical:** If released to the atmosphere, 2-heptanone is expected to undergo a gas-phase reaction with photochemically produced hydroxyl radicals; the estimated half-life for this process is 1.9days. 2-Heptanone's relatively high water solubility, 4300 mg/l at 25 deg C, indicates that it may undergo atmospheric removal by wet deposition processes.

**Other:** 2-Heptanone had a theoretical biological oxygen demand (BOD) of 1.4%, 2.4% and 4.8% after 6, 12 and 24 hr, respectively, when incubated with a activated sludge seed at an initial concentration of 500 ppm. 2-Heptanone underwent a 5 day theoretical BOD of 44%. In a screening study using a sewage seed, 2-heptanone had a 10 day BOD of 0.50 g/g.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	N-AMYL METHYL KETONE	No information available.
<b>Hazard Class:</b>	3	
<b>UN Number:</b>	UN1110	
<b>Packing Group:</b>	III	

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 110-43-0 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 110-43-0: immediate, fire, reactive.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 110-43-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

#### **Hazard Symbols:**

XN

#### **Risk Phrases:**

R 10 Flammable.  
R 22 Harmful if swallowed.

#### **Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.  
S 23 Do not inhale gas/fumes/vapour/spray.  
S 33 Take precautionary measures against static discharges.  
S 9 Keep container in a well-ventilated place.

#### **WGK (Water Danger/Protection)**

CAS# 110-43-0: 1

#### **Canada - DSL/NDSL**

CAS# 110-43-0 is listed on Canada's DSL List.

#### **Canada - WHMIS**

This product has a WHMIS classification of B3, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

#### **Canadian Ingredient Disclosure List**

CAS# 110-43-0 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 6/03/1999

**Revision #5 Date:** 11/20/2008

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