Fisher Scientific

Part of Thermo Fisher Scientific

# Material Safety Data Sheet

**Creation Date** 21-Oct-2009 **Revision Date** 29-Oct-2014 **Revision Number** 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** **Ethyl alcohol, denatured (A407)**

**Cat No. :** **A407-1; A407-4; A407-20; A407-200; A407-500; A407P-4; A407RB-19; A407RB-115; A407RB-200; A407S-4; A407SK-4**

**Synonyms** Ethanol, denatured; Grain alcohol, denatured; Ethyl hydroxide, denatured

**Recommended Use** Laboratory chemicals

**Company**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. HAZARDS IDENTIFICATION

**DANGER**

**Emergency Overview**

Flammable liquid and vapor. Heating may cause an explosion. Harmful by inhalation, in contact with skin and if swallowed. Exposure through inhalation may result in delayed pulmonary edema, which may be fatal. Aspiration hazard if swallowed - can enter lungs and cause damage. Possible risks of irreversible effects. Causes respiratory tract burns. Irritating to eyes and skin. May cause central nervous system effects. This substance has caused adverse reproductive and fetal effects in humans. Substances known to cause developmental toxicity in humans. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Oxidizing agent. Toxic to aquatic organisms.

**Appearance** Clear, Colorless **Physical State** Liquid **Odor** aromatic

**Target Organs** Liver, Kidney, Respiratory system, Eyes, Skin, Central nervous system (CNS), Blood, Reproductive System, Gastrointestinal tract (GI), Optic nerve

**Potential Health Effects**

**Acute Effects**
**Principle Routes of Exposure**

**Eyes** Irritating to eyes.
**Skin** Harmful in contact with skin. Irritating to skin.

**Inhalation** Harmful by inhalation. May cause pulmonary edema. May cause irritation of respiratory tract. Inhalation may cause central nervous system effects.

**Ingestion** Harmful if swallowed. Poison, may be fatal or cause blindness if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic Effects**
Substances known to cause developmental toxicity in humans: This substance has caused adverse reproductive and fetal effects in humans: Component substance is listed on California Proposition 65 as a developmental hazard: Tumorigenic effects have been reported in experimental animals: May cause adverse liver effects: May cause adverse kidney effects

**Aggravated Medical Conditions** Central nervous system disorders. Preexisting eye disorders. Kidney disorders. Liver disorders. Skin disorders. Gastrointestinal tract.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No | Weight % |
|---|---|---|
| Ethyl alcohol | 64-17-5 | 88.785 |
| Water | 7732-18-5 | 4.673 |
| Methyl alcohol | 67-56-1 | 3.738 |
| Methylisobutyl ketone | 108-10-1 | 0.935 |
| Ethylacetate | 141-78-6 | 0.935 |
| Hexane | 110-54-3 | 0.822 |
| Toluene | 108-88-3 | 0.075 |

## 4. FIRST AID MEASURES

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

**Ingestion** Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Notes to Physician** Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

**Flash Point** 13.9 °C / 57 °F

**Method -** No information available

**Autoignition Temperature** 362.8 °C / 685 °F

**Explosion Limits**
**Upper** No data available
**Lower** No data available

| | |
|---|---|
| **Suitable Extinguishing Media** | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray. |
| **Unsuitable Extinguishing Media** | Water may be ineffective |
| **Hazardous Combustion Products** | No information available. |
| **Sensitivity to Mechanical Impact** | No information available |
| **Sensitivity to Static Discharge** | No information available |

**Specific Hazards Arising from the Chemical**
Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA** **Health** 3 **Flammability** 3 **Instability** 0 **Physical hazards** N/A

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal Precautions** | Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. |
| **Environmental Precautions** | Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. |
| **Methods for Containment and Clean Up** | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges. Use only non-sparking tools. |
| **Storage** | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Ethyl alcohol | STEL: 1000 ppm | (Vacated) TWA: 1000 ppm<br>(Vacated) TWA: 1900 mg/m³<br>TWA: 1000 ppm<br>TWA: 1900 mg/m³ | IDLH: 3300 ppm<br>TWA: 1000 ppm<br>TWA: 1900 mg/m³ |
| Methyl alcohol | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | (Vacated) TWA: 200 ppm<br>(Vacated) TWA: 260 mg/m³<br>(Vacated) STEL: 250 ppm<br>(Vacated) STEL: 325 mg/m³<br>Skin<br>TWA: 200 ppm<br>TWA: 260 mg/m³ | IDLH: 6000 ppm<br>TWA: 200 ppm<br>TWA: 260 mg/m³<br>STEL: 250 ppm<br>STEL: 325 mg/m³ |
| Methylisobutyl ketone | TWA: 20 ppm<br>STEL: 75 ppm | (Vacated) TWA: 50 ppm<br>(Vacated) TWA: 205 mg/m³<br>(Vacated) STEL: 75 ppm<br>(Vacated) STEL: 300 mg/m³<br>TWA: 100 ppm<br>TWA: 410 mg/m³ | IDLH: 500 ppm<br>TWA: 50 ppm<br>TWA: 205 mg/m³<br>STEL: 75 ppm<br>STEL: 300 mg/m³ |
| Ethylacetate | TWA: 400 ppm | (Vacated) TWA: 400 ppm<br>(Vacated) TWA: 1400 mg/m³<br>TWA: 400 ppm<br>TWA: 1400 mg/m³ | IDLH: 2000 ppm<br>TWA: 400 ppm<br>TWA: 1400 mg/m³ |
| Hexane | TWA: 50 ppm<br>Skin | (Vacated) TWA: 50 ppm<br>(Vacated) TWA: 180 mg/m³<br>TWA: 500 ppm<br>TWA: 1800 mg/m³ | IDLH: 1100 ppm<br>TWA: 50 ppm<br>TWA: 180 mg/m³ |
| Toluene | TWA: 20 ppm | (Vacated) TWA: 100 ppm<br>(Vacated) TWA: 375 mg/m³<br>Ceiling: 300 ppm<br>(Vacated) STEL: 150 ppm<br>(Vacated) STEL: 560 mg/m³<br>TWA: 200 ppm | IDLH: 500 ppm<br>TWA: 100 ppm<br>TWA: 375 mg/m³<br>STEL: 150 ppm<br>STEL: 560 mg/m³ |
| **Component** | **Quebec** | **Mexico OEL (TWA)** | **Ontario TWAEV** |
| Ethyl alcohol | TWA: 1000 ppm<br>TWA: 1880 mg/m³ | TWA: 1000 ppm<br>TWA: 1900 mg/m³ | STEL: 1000 ppm |
| Methyl alcohol | TWA: 200 ppm<br>TWA: 262 mg/m³<br>STEL: 250 ppm<br>STEL: 328 mg/m³<br>Skin | TWA: 200 ppm<br>TWA: 260 mg/m³<br>STEL: 250 ppm<br>STEL: 310 mg/m³ | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin |
| Methylisobutyl ketone | TWA: 50 ppm<br>TWA: 205 mg/m³<br>STEL: 75 ppm<br>STEL: 307 mg/m³ | TWA: 50 ppm<br>TWA: 205 mg/m³<br>STEL: 75 ppm<br>STEL: 307 mg/m³ | TWA: 20 ppm<br>STEL: 75 ppm |
| Ethylacetate | TWA: 400 ppm<br>TWA: 1440 mg/m³ | TWA: 400 ppm<br>TWA: 1400 mg/m³ | TWA: 400 ppm |
| Hexane | TWA: 50 ppm<br>TWA: 176 mg/m³<br>Skin | TWA: 50 ppm<br>TWA: 176 mg/m³ | TWA: 50 ppm<br>Skin |
| Toluene | TWA: 50 ppm<br>TWA: 188 mg/m³<br>Skin | TWA: 50 ppm<br>TWA: 188 mg/m³ | TWA: 20 ppm |

**Legend**

*NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health*

**Personal Protective Equipment**

| | |
|---|---|
| **Eye/face Protection** | 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 and body protection** | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| **Respiratory Protection** | 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. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Clear, Colorless |
| **Odor** | aromatic |
| **Odor Threshold** | No information available |
| **pH** | No information available |
| **Vapor Pressure** | 40.9 mmHg @ 20 °C |
| **Vapor Density** | No information available |
| **Viscosity** | No information available |
| **Boiling Point/Range** | 78.5 °C / 173.3 °F |
| **Melting Point/Range** | -90.0 °C / -130 °F |
| **Decomposition Temperature** | No information available |
| **Flash Point** | 13.9 °C / 57 °F |
| **Evaporation Rate** | 2.0 |
| **Specific Gravity** | 0.7905 |
| **Solubility** | Soluble in water |
| **log Pow** | No data available |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability** | Stable under normal conditions. |
| **Conditions to Avoid** | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. |
| **Incompatible Materials** | Strong oxidizing agents, Strong acids, Acid anhydrides, Acid chlorides |
| **Hazardous Decomposition Products** | Carbon monoxide (CO), Carbon dioxide ($CO_2$) |
| **Hazardous Polymerization** | Hazardous polymerization does not occur. |
| **Hazardous Reactions** | None under normal processing. |

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

**Product Information**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Ethyl alcohol | Not listed | Not listed | 20000 ppm/10H ( Rat ) |
| Methyl alcohol | 6200 mg/kg ( Rat ) | Not listed | 22500 ppm ( Rat ) 8 h |

| | | | |
|---|---|---|---|
| Methylisobutyl ketone | 2080 mg/kg ( Rat ) | 3000 mg/kg ( Rabbit ) | 8.2 mg/L ( Rat ) 4 h |
| Ethylacetate | 5620 mg/kg ( Rat ) | 18000 mg/kg ( Rabbit ) | 58 mg/l (rat; 8 h) |
| Hexane | Not listed | 3000 mg/kg ( Rabbit ) | 48000 ppm ( Rat ) 4 h |
| Toluene | > 5000 mg/kg ( Rat ) | 12000 mg/kg ( Rabbit ) | 26700 ppm ( Rat ) 1 h |

**Irritation** Irritating to eyes and skin

**Toxicologically Synergistic Products** No information available

**Chronic Toxicity**

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

| Component | ACGIH | IARC | NTP | OSHA | Mexico |
|---|---|---|---|---|---|
| Ethyl alcohol | A3 | Group 1 | Not listed | X | Not listed |
| Methylisobutyl ketone | A3 | Group 2B | Not listed | X | Not listed |

**ACGIH: (American Conference of Governmental Industrial Hygienists)**
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)
**IARC: (International Agency for Research on Cancer)**
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

**Sensitization** No information available

**Mutagenic Effects** Mutagenic effects have occurred in humans.

**Reproductive Effects** Adverse reproductive effects have occurred in humans.

**Developmental Effects** Substances known to cause developmental toxicity in humans. Component substance is listed on California Proposition 65 as a developmental hazard.

**Teratogenicity** Teratogenic effects have occurred in humans.

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

**Endocrine Disruptor Information** No information available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Ethyl alcohol | EC50 (72h) = 275 mg/l (Chlorella vulgaris) | Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h | Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min | EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h |

| | | | | |
|---|---|---|---|---|
| Methyl alcohol | Not listed | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min<br>EC50 = 40000 mg/L 15 min<br>EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |
| Methylisobutyl ketone | EC50: 400 mg/L/96h | 496 - 514 mg/L LC50 96 h | EC50 = 79.6 mg/L 5 min | EC50: 4280.0 mg/L/24h<br>EC50: 170 mg/L/48h<br>EC50: 4280.0 mg/L/24h |
| Ethylacetate | EC50 = 3300 mg/L/48h | Fathead minnow: LC50: 230 mg/l/ 96h<br>Gold orfe: LC50: 270 mg/L/48h | EC50 = 1180 mg/L 5 min<br>EC50 = 1500 mg/L 15 min<br>EC50 = 5870 mg/L 15 min<br>EC50 = 7400 mg/L 2 h | EC50 = 717 mg/L/48h |
| Hexane | Not listed | 2.1 - 2.98 mg/L LC50 96 h | Not listed | EC50: 3.87 mg/L/48h |
| Toluene | 12.5 mg/L EC50 = 72 h 433 mg/L EC50 > 96 h | 50-70 mg/L LC50 96 h<br>5-7 mg/L LC50 96 h<br>15-19 mg/L LC50 96 h<br>28 mg/L LC50 96 h<br>12 mg/L LC50 96 h | EC50 = 19.7 mg/L 30 min | 11.5 mg/L EC50 = 48 h 5.46 - 9.83 mg/L EC50 48 h |

**Persistence and Degradability** Not applicable for mixtures. .

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its volatility.

| Component | log Pow |
|---|---|
| Ethyl alcohol | -0.32 |
| Methyl alcohol | -0.74 |
| Methylisobutyl ketone | 1.19 |
| Ethylacetate | 0.6 |
| Hexane | 4.11 |
| Toluene | 2.65 |

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|---|---|---|
| Methyl alcohol - 67-56-1 | U154 | - |
| Methylisobutyl ketone - 108-10-1 | U161 | - |
| Ethylacetate - 141-78-6 | U112 | - |
| Toluene - 108-88-3 | U220 | - |

## 14. TRANSPORT INFORMATION

**DOT**

**UN-No** UN1170
**Proper Shipping Name** ETHANOL SOLUTION
**Hazard Class** 3
**Packing Group** II

**TDG**

**UN-No** UN1170
**Proper Shipping Name** ETHANOL SOLUTION
**Hazard Class** 3
**Packing Group** II

**IATA**

**UN-No** UN1170
**Proper Shipping Name** ETHANOL SOLUTION

**Hazard Class** 3
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1170
**Proper Shipping Name** ETHANOL SOLUTION
**Hazard Class** 3
**Packing Group** II

## 15. REGULATORY INFORMATION

**International Inventories**

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethyl alcohol | X | X | - | 200-578-6 | - | | X | X | X | X | X |
| Water | X | X | - | 231-791-2 | - | | X | - | X | X | X |
| Methyl alcohol | X | X | - | 200-659-6 | - | | X | X | X | X | X |
| Methylisobutyl ketone | X | X | - | 203-550-1 | - | | X | X | X | X | X |
| Ethylacetate | X | X | - | 205-500-4 | - | | X | X | X | X | X |
| Hexane | X | X | - | 203-777-6 | - | | X | X | X | X | X |
| Toluene | X | X | - | 203-625-9 | - | | X | X | X | X | X |

**Legend:**

**X - Listed**

**E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.**

**F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.**

**N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.**

**P - Indicates a commenced PMN substance**

**R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.**

**S - Indicates a substance that is identified in a proposed or final Significant New Use Rule**

**T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.**

**XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).**

**Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.**

**Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.**

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**SARA 313**

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Methyl alcohol | 67-56-1 | 3.738 | 1.0 |
| Methylisobutyl ketone | 108-10-1 | 0.935 | 1.0 |
| Hexane | 110-54-3 | 0.822 | 1.0 |
| Toluene | 108-88-3 | 0.075 | 1.0 |

**SARA 311/312 Hazardous Categorization**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**Clean Water Act**

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|---|---|---|---|---|
| Toluene<br>108-88-3 ( 0.075 ) | X | 1000 lb | X | X |

**Clean Air Act**

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|---|---|---|---|
| Methyl alcohol<br>67-56-1 ( 3.738 ) | X | | - |
| Methylisobutyl ketone<br>108-10-1 ( 0.935 ) | X | | - |
| Hexane<br>110-54-3 ( 0.822 ) | X | | - |
| Toluene<br>108-88-3 ( 0.075 ) | X | | - |

**OSHA** Occupational Safety and Health Administration
Not applicable

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|---|---|---|
| Methyl alcohol | 5000 lb | - |
| Methylisobutyl ketone | 5000 lb | - |
| Ethylacetate | 5000 lb | - |
| Hexane | 5000 lb | - |
| Toluene | 1000 lb 1 lb | - |

**California Proposition 65**
This product contains the following Proposition 65 chemicals:

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|---|---|---|---|---|
| Ethyl alcohol | 64-17-5 | Developmental | - | Developmental<br>Carcinogen |
| Methyl alcohol | 67-56-1 | Developmental | - | Developmental |
| Methylisobutyl ketone | 108-10-1 | Carcinogen<br>Developmental | - | Developmental<br>Carcinogen |
| Toluene | 108-88-3 | Developmental<br>Female Reproductive | - | Developmental |

**State Right-to-Know**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Ethyl alcohol | X | X | X | X | X |
| Methyl alcohol | X | X | X | X | X |
| Methylisobutyl ketone | X | X | X | X | X |
| Ethylacetate | X | X | X | - | X |
| Hexane | X | X | X | X | X |
| Toluene | X | X | X | X | X |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**
This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Serious risk, Grade 3

**Canada**

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR**

**WHMIS Hazard Class**
B2 Flammable liquid
D2A Very toxic materials

## 16. OTHER INFORMATION

**Prepared By** Regulatory Affairs
Thermo Fisher Scientific
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**Creation Date** 21-Oct-2009

**Print Date** 29-Oct-2014

**Revision Summary**
"***", and red text indicates revision

**Disclaimer**

**The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of MSDS**