# SAFETY DATA SHEET

**Preparation Date:** 07/17/2015 **Revision date** 11/08/2019 **Revision Number:** G2

## 1. IDENTIFICATION

**Product identifier**

**Product code:** B2634
**Product Name:** BORON TRIFLUORIDE 50 PERCENT IN METHANOL

**Other means of identification**
**Synonyms:** Boron, trifluoro(methanol)-, (T-4)-
Boron trifluoride-methanol
**CAS #:** 373-57-9
**RTECS #** Not available
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**
**Recommended use:** Laboratory reagent.
**Uses advised against** No information available

**Supplier:**
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

**Order Online At:** https://www.spectrumchemical.com
**Emergency telephone number** Chemtrec 1-800-424-9300
**Contact Person:** Tom Tyner (USA - West Coast)
**Contact Person:** Ibad Tirmiz (USA - East Coast)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

| | |
|---|---|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Dermal | Category 3 |
| Acute toxicity - Inhalation (Vapors) | Category 3 |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Reproductive toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Specific target organ toxicity (repeated exposure) | Category 1 |
| Flammable liquids | Category 2 |

**Label elements**

**Danger**

**Hazard statements**
Toxic if swallowed, in contact with skin or if inhaled
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

**Hazards not otherwise classified (HNOC)**
Not Applicable

**Other hazards**
Can burn with an invisible flame
May cause blindness if swallowed

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe mist or vapors
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground container and receiving equipment
Use explosion-proof equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

**Precautionary Statements - Response**
*Immediately call a POISON CENTER or physician*
In case of fire: Use CO2, dry chemical, or foam to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or physician.
Call a POISON CENTER or physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
IF SWALLOWED: Immediately call a POISON CENTER or physician
Rinse mouth
Do NOT induce vomiting

**Precautionary Statements - Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**
Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight-% |
|---|---|---|
| Methyl Alcohol | 67-56-1 | 50 |
| Boron trifluoride | 7637-07-2 | 50 |

## 4. FIRST AID MEASURES

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

**Skin Contact:** Toxic in contact with skin. Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Immediate medical attention is required. Call a physician or poison control center immediately.

**Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion:** Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**
Severe skin and eye irritation or burns
Causes eye damage
Central nervous system effects
Abdominal pain
Nausea
Vomiting
Visual disturbances
Causes damage to central nervous system and eye/optic nerve
May cause blindness
May cause metabolic acidosis
Increased sensitivity to light
Pupillary dilation
Rapid eye movement

May affect the cardiovascular system
May affect the liver
It may affect the kidneys

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:**

This product contains Methyl Alcohol.
For Methyl Alcohol Ingestion:
1. Support vital functions, correct for dehydration and shock, and manage fluid balance.
2. The currently recommended medical management of Methanol poisoning includes the following methods:

a. Emptying the stomach by gastric lavage. It is useful if initiated within < 1 of ingestion.

b. Correct metabolic acidosis with intravenous administration of sodium bicarbonate, adjusting the administration rate according to repeated and frequent measurement of acid/base status.

c. Administer ethanol (orally or by IV (intravenously)) or Fomepizole (4-methylpyrazole or Antizol)) therapy by IV (intravenously)as an antidote to inhibit the formation of toxic metabolites. Adjunct therapy with Leucorvin followed by Folate can also be initialized. Please note that if Ethanol therapy is used, monitor blood glucose, especially in children. Ethanol can cause hypoglycemia.

d. When patients are diagnosed and treated early in the course with the above methods, hemodialysis may be avoided if fomepizole or ethanol therapy is effective, and the metabolic acidosis is corrected, and no renal failure is present. However, once severe acidosis and renal failure occurred, hemodialysis is necessary. Hemodialysis is effective in removing Methyl alcohol and toxic metabolites, and correcting metabolic acidosis.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Use dry chemical, CO2, water spray or "alcohol" foam.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

### Specific hazards arising from the chemical

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO2). Borane/Boron oxides. Hydrogen fluoride.

**Specific hazards** Flammable. May be ignited by heat, sparks or flames. Material can burn with invisible flame. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

### Special Protective Actions for Firefighters

**Specific Methods:** Water mist may be used to cool closed containers For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. All equipment used when handling the product must be grounded. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Technical Measures/Precautions:**
Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

**Safe Handling Advice:**
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Use only in well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice.

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

**Technical Measures/Storage Conditions:**
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Store away from incompatible materials. Store in a segregated and approved area.

**Incompatible Materials:**
Oxidizing agents
Acids
Acid chlorides
Acid anhydrides
Alkali Metals
Alkaline Earth metals
Aluminum

Zinc
Alkyl nitrates
Chlorine
chromium trioxide
Potassium t-butoxide
Chromic anhydride
Beryllium hydride
Acetyl bromide
Phosphorous trioxide
Dichloromethane

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**National occupational exposure limits**

**United States**

| Component | CAS No | **OSHA** | **NIOSH** | **ACGIH** | **AIHA WEEL** |
|---|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | 200 ppm TWA<br>260 mg/m³ TWA | 200 ppm TWA<br>260 mg/m³ TWA<br>250 ppm STEL<br>325 mg/m³ STEL | 250 ppm STEL<br>200 ppm TWA | Not determined |
| Boron trifluoride | 7637-07-2 | 1 ppm Ceiling<br>3 mg/m³ Ceiling | 1 ppm Ceiling<br>3 mg/m³ Ceiling | 0.7 ppm Ceiling<br>0.1 ppm TWA | None |

**Canada**

| Component | CAS No | **Canada - Alberta** | **Canada - British Columbia** | **Canada - Ontario** | **Canada - Quebec** |
|---|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | 200 ppm TWA<br>262 mg/m³ TWA<br>250 ppm STEL<br>328 mg/m³ STEL | 200 ppm TWA<br>250 ppm STEL | 200 ppm TWA<br>250 ppm STEL | 200 ppm TWAEV<br>262 mg/m³ TWAEV<br>250 ppm STEV<br>328 mg/m³ STEV |
| Boron trifluoride | 7637-07-2 | 1 ppm Ceiling<br>2.8 mg/m³ Ceiling | 1 ppm Ceiling | 1 ppm Ceiling | 1 ppm Ceiling<br>2.8 mg/m³ Ceiling |

**Australia and Mexico**

| Component | CAS No | **Australia** | **Mexico** |
|---|---|---|---|
| Methyl Alcohol | 67-56-1 | 250 ppm STEL<br>328 mg/m³ STEL<br>200 ppm TWA<br>262 mg/m³ STEL | 200 ppm TWA<br>260 mg/m³ TWA<br>250 ppm STEL<br>310 mg/m³ STEL |
| Boron trifluoride | 7637-07-2 | None | 1 ppm Ceiling<br>3 mg/m³ Ceiling |

**Appropriate engineering controls**

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

**Eye protection:** Goggles or Face-shield.

**Skin and body protection:** Chemical resistant protective suit
Gloves
Long sleeved clothing

**Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:**
Liquid

**Appearance:**
No information available.

**Color:**
Colorless.

**Odor:**
No information available.

**Taste**
No information available.

**Formula**
No information available

**Molecular/Formula weight (g/mole):**
No information available

**Flammability (solid, gas)**
Highly Flammable and vapor

**Flashpoint (°C/°F):**
11°C/ 52°F

**Flash Point Tested according to:**
Closed cup

**Autoignition Temperature (°C/°F):**
No information available

**Lower Explosion Limit (%):**
No information available

**Upper Explosion Limit (%):**
No information available

**Melting point/range(°C/°F):**
No information available

**Decomposition temperature(°C/°F):**
No information available

**Boiling point/range(°C/°F):**
59°C/ 138°F

**Bulk density:**
No information available

**Density (g/cm3):**
1.203

**Specific gravity:**
No information available

**pH**
No information available

**Vapor pressure @ 20°C (kPa):**
2.6

**Evaporation rate:**
No information available

**Vapor density:**
No information available

**VOC content (g/L):**
No information available

**Odor threshold (ppm):**
No information available

**Partition coefficient (n-octanol/water):**
No information available

**Viscosity:**
No information available

**Miscibility:**
No information available

**Solubility:**
No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**
No information available

**Chemical stability**

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents

Acids
Acid chlorides
Acid anhydrides
Alkali Metals
Alkaline Earth metals
Aluminum
Zinc
Alkyl nitrates
Chlorine
chromium trioxide
Potassium t-butoxide
Chromic anhydride
Beryllium hydride
Acetyl bromide
Phosphorous trioxide
Dichloromethane

**Hazardous decomposition products:** Carbon oxides. Hydrogen fluoride. Boron oxides.

**Other Information**
**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Principal Routes of Exposure:**
Skin. Eyes. Inhalation. Ingestion.

**Acute Toxicity**

**Component Information**

| Methyl Alcohol | |
|---|---|
| CAS No | 67-56-1 |

**LD50/oral/rat =** 5628 mg/kg (EU Chemicals Bureau IUCLID datasheet)
5600 mg/kg (RTECS)
6200 mg/kg Oral LD50 Rat (LOLI; EU Chemicals Bureau IUCLID dataset)
**LD50/oral/mouse =** 5800 mg/kg
**LD50/dermal/rabbit =** 15800 mg/kg; 15840 mg/kg Dermal LD50 Rabbit
**LD50/dermal/rat =** No information available
**LC50/inhalation/rat =** 83.2 mg/L Inhalation LC50 Rat 4 h
64000 ppm 4 h; 22500 ppm Inhalation LC50 8h
**LC50/inhalation/mouse =** 41000 ppm 6 h
**Other LD50 or LC50information =** 14200 mg/kg Oral LD50 Rabbit
7500 mg/kg Oral LD50 Dog
>5000 mg/kg Oral LD50 Pig
7000 mg/kg Oral LD50 Monkey
22500 ppm Inhalation LC50 Rat 8 hr.

| Boron trifluoride | |
|---|---|
| CAS No | 7637-07-2 |

**LD50/oral/rat =** No information available

**LD50/oral/mouse =** No information available
**LD50/dermal/rabbit =** No information available
**LD50/dermal/rat =** No information available
**LC50/inhalation/rat =** 1180 mg/m$^3$ Inhalation LC50 Rat 4 h
**LC50/inhalation/mouse =** No information available
**Other LD50 or LC50information =** No information available

**Product Information**

**LD50/oral/rat =**
**Value - Acute Toxicity =** No information available

**LD50/oral/mouse =**
**Value - Acute Tox =** No information available

**LD50/dermal/rabbit**
**Value - Acute Toxicity =** No information available

**LD50/dermal/rat**
**VALUE - Acute Tox =** No information available

**LC50/inhalation/rat**
**VALUE-Vapor =** No information available
**VALUE-Gas =** No information available
**VALUE-Dust/Mist =** No information available

**LC50/Inhalation/mouse**
**VALUE-Vapor =** No information available
**VALUE - Gas =** No information available
**VALUE - Dust/Mist =** No information available

**Symptoms**

| | |
|---|---|
| **Skin Contact:** | Toxic in contact with skin. Causes severe irritation and burns. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances. Absorption through the skin may cause metabolic acidosis. |
| **Eye Contact:** | Causes severe irritation and burns. |
| **Inhalation** | Toxic by inhalation. May cause nausea and headache. Inhalation of high concentrations of vapors may cause dizziness or suffocation. May cause central nervous system effects, central nervous system depression. May cause metabolic acidosis. May cause irritation of respiratory tract. May cause dyspnea (difficulty breathing or shortness of breath). Symptoms may include coughing and wheezing. |
| **Ingestion** | Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. May cause gastritis. May cause abdominal pain, nausea, vomiting, diarrhea. May cause metabolic acidosis. May affect respiration (dyspnea - difficulty breathing and shortness of breath). May cause significant visual disturbances (reduced reactivity/and or increased sensitivity to light, blurred vision, double vision, snowy vision) and blindess. May affect behavior/central nervous system/peripheral nervous system (general anesthetic/sedation, malaise, dizziness, vertigo, delirium, confusion, restlessness, giddiness, back pain, headache, muscle weakness, somnolence, lethargy, spastic paralysis, muscle contraction, tremor, ataxia, seizures/convulsions, unconsciousness, coma). May cause pupillary dilation. May affect the cardiovascular system. May affect liver. May affect the kidneys. |

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Prolonged or repeated exposure can affect eyes/vision (damage the optic nerve) and cause blindness. Methanol is very slowly eliminated from the body. Because of this slow elimination, methanol should be regarded as a cumulative poison. Though a single exposure may cause no effect, daily exposures may result in the accumulation of harmful amounts. Prolonged or repeated exposure by inhalation or ingestion will have effects similar to those of acute inhalation or ingestion. Prolonged or repeated skin contact may cause deffating dermatitis with defatting, dryness and cracking. Chronic exposure may affect the liver and kidneys.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

| Component | CAS No | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|---|---|---|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |
| Boron trifluoride | 7637-07-2 | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** Suspected of damaging fertility or the unborn child

**Reproductive Effects:** No information available
**Developmental Effects:** No information available
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.
**STOT - repeated exposure** Skin. kidney. liver. central nervous system. Eyes.
**Target Organs:** Eyes. Kidneys. Liver. Heart. Central nervous system. Bones. Lungs. Blood. Teeth.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Methyl Alcohol - 67-56-1*
**Fish** 28200 mg/L LC50 Pimephales promelas 96 h flow-through 1 100 mg/L LC50 Pimephales promelas 96 h static 1 19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1 18 - 20 mL/L LC50 Oncorhynchus mykiss 96 h static 1

13500 - 17600 mg/L LC50 Lepomis macrochirus 96 h flow-through 1

*Boron trifluoride - 7637-07-2*

**Fish** LC50: =15000mg/L (24h, Lepomis macrochirus)

**Crustacea** EC50: =21.3mg/L (48h, Daphnia magna)

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

**Waste from residues / unused products:**
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**
Empty containers should be taken for local recycling, recovery or waste disposal

| Component | CAS No | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | None | None | None | U154 ignitable waste |
| Boron trifluoride | 7637-07-2 | None | None | None | None |

## 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** UN2924
**Proper Shipping Name:** Flammable liquids, corrosive, n.o.s. (boron trifluoride; methanol, solution)
**Hazard Class** 3
**Subsidiary Class** 8
**Packing group:** II
**Emergency Response Guide Number** 132
**Marine Pollutant** No data available
**DOT RQ (lbs):** No information available
**Special Provisions** IB2, T11, TP2, TP27
**Symbol(s):** [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
**Description:** UN2924, Flammable liquids, corrosive, n.o.s., 3 (8), II

**TDG (Canada)**

**UN-No:** UN2924
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.
**Hazard Class** 3
**Subsidiary Risk:** (8)
**Packing Group:** II
**Marine Pollutant** No Information available
**Description:** UN2924, Flammable liquid, corrosive, n.o.s., 3 (8), II

**ADR**

**UN Number** UN2924
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.
**Transport hazard class(es)** 3
**Packing group** II
**Subsidiary Risk:** 8
**Special Provisions** 274
**Description:** UN2924, Flammable liquid, corrosive, n.o.s., 3 (8), II

**IMDG**

**UN-No:** UN2924
**Proper Shipping Name:** Flammable liquids, corrosive, n.o.s. (boron trifluoride; methanol, solution)
**Hazard Class:** 3
**Subsidiary Risk:** 8
**Packing Group:** II
**Marine Pollutant** No information available
**EMS:** F-E
**Special Provisions** 274
**Description** UN2924, Flammable liquid, corrosive, n.o.s. (BORON TRIFLUORIDE 50% IN METHANOL), 3 (8), II

**RID**

**UN Number** UN2924
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.
**Transport hazard class(es)** 3
**Subsidiary Risk:** 8
**Packing group** II
**Special Provisions** 274
**Description:** UN2924, Flammable liquid, corrosive, n.o.s., 3 (8), II

**ICAO (air)**

**UN-No:** UN2924
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.
**Hazard Class** 3
**Subsidiary Risk:** 8
**Packing Group:** II
**Description:** UN2924, Flammable liquid, corrosive, n.o.s., 3 (8), II
**Special Provisions** A3

**IATA**

**UN Number** UN2924
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.
**Transport hazard class(es)** 3
**Subsidiary Risk:** 8
**Packing group** II
**Precautionary Statements - Response** 3CH
**Special Provisions** No information available
**Description:** UN2924, Flammable liquid, corrosive, n.o.s., 3 (8), II

## 15. REGULATORY INFORMATION

**International Inventories**

| Component | CAS No | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | China IECSC | Australia (AICS) | EINECS-No. |
|---|---|---|---|---|---|---|---|---|
| *Methyl Alcohol* | 67-56-1 | PresentACTIVE | Present KE-23193 | Present | Present (2)-201 | Present | Present | Present 200-659-6 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Boron trifluoride* | 7637-07-2 | PresentACTIVE | Present KE-03541 | Present | Present (1)-44 | Present | Present | Present 231-569-5 |

## U.S. Regulations

*Methyl Alcohol*

**Massachusetts RTK:** Present
**New Jersey RTK Hazardous Substance List:** 1222
**New Jersey (EHS) List:** 1222 500 lb TPQ
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present
**Pennsylvania RTK:** Environmental hazard
**Pennsylvania RTK - Environmental Hazard List** Present
**Minnesota - Hazardous Substance List:** Present
**New York Release Reporting - List of Hazardous Substances:**
5000 lb RQ
1 lb RQ
**Louisana Reportable Quantity List for Pollutants:** 5000lbfinal RQ
2270kgfinal RQ
**California Directors List of Hazardous Substances:** Present

**FDA - Direct Food Additives** 21 CFR 173.250 (residues); 21 CFR 172.869 (residual)
**FDA - 21 CFR - Total Food Additives - List Sourced from EAFUS** 172.560, 172.859, 172.867, 173.250, 173.385, 175.105, 175.300, 176.180, 176.200, 176.210, 177.1200, 177.2420, 177.2460, 177.2800, 73.345, 73.615

*Boron trifluoride*

**Massachusetts RTK:** Present
**Massachusetts EHS:** extraordinarily hazardous
**New Jersey RTK Hazardous Substance List:** 0246
**New Jersey (EHS) List:** 0246 500 lb TPQ
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present
**New Jersey TCPA - EHS:** 200lbTQ
**Pennsylvania RTK:** Environmental hazard
**Pennsylvania RTK - Environmental Hazard List** Present
**Michigan PSM HHC:** = 250 lb TQ
**Minnesota - Hazardous Substance List:** Present
**New York Release Reporting - List of Hazardous Substances:**
1 lb RQ
**California Directors List of Hazardous Substances:** Present

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

**Chemicals Known to the State of California to Cause Cancer:**
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**
WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

| Component | CAS No | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|---|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | Not Listed | developmental | Not Listed | Not Listed |
| Boron trifluoride | 7637-07-2 | Not Listed | Not Listed | Not Listed | Not Listed |

### CERCLA/SARA

| Component | CAS No | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|---|---|---|---|---|---|---|
| *Methyl Alcohol* | 67-56-1 | 5000 lb final RQ 2270 kg final RQ | None | None | None | 1.0 % de minimis concentration |
| *Boron trifluoride* | 7637-07-2 | None | 500 lb EPCRA RQ | None | None | 1.0 % de minimis concentration |

**U.S. TSCA**

| Component | CAS No | **TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)** | **TSCA 8(d) -Health and Safety Reporting** |
|---|---|---|---|
| Methyl Alcohol | 67-56-1 | Not Applicable | Not Applicable |
| Boron trifluoride | 7637-07-2 | Not Applicable | Not Applicable |

## Canada

**WHIMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information: The WHMIS 2015 classification of this product has not been validated or reviewed yet.

| Component | WHMIS 2015 Hazard Classification |
|---|---|
| Methyl Alcohol<br>67-56-1 ( 50 ) | Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Reproductive Toxicity - Category 1: H360 May damage fertility or the unborn child.; Specific target organ toxicity - Single exposure - Category 2: H371 May cause damage to organs.; Specific target organ toxicity - Single exposure - Category 3: H336 May cause drowsiness or dizziness. |
| Boron trifluoride<br>7637-07-2 ( 50 ) | Gases under pressure - Liquefied gas: H280 Contains gas under pressure, may explode when heated.; Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled. (releases a toxic gas upon contact with water (Hydrogen fluoride)); Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.; Specific target organ toxicity - Single exposure - Category 3: H335 May cause respiratory irritation. |

**Canada Hazardous Products Regulation** This product has not been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

**DSL/NDSL**

| Component | CAS No | Canada (DSL) | Canada (NDSL) |
|---|---|---|---|
| Methyl Alcohol | 67-56-1 | Present | Not Listed |
| Boron trifluoride | 7637-07-2 | Present | Not Listed |

| **Component** | CAS No | CEPA Schedule I - Toxic Substances |
|---|---|---|
| Methyl Alcohol | 67-56-1 | Not listed |
| Boron trifluoride | 7637-07-2 | Not listed |
| Component | CAS No | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| Methyl Alcohol | 67-56-1 | Not listed |
| Boron trifluoride | 7637-07-2 | Not listed |

**EU Classification**

**EU GHS - SV - CLP 1272/2008**

| Component | CAS No | EU GHS - SV - CLP (1272/2008) |
|---|---|---|
| Methyl Alcohol | 67-56-1 | Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Acute toxicity - Oral - Acute Tox. 3: H301 Toxic if swallowed. (Minimum |

| | | |
|---|---|---|
| | | classification); Acute toxicity - Dermal - Acute Tox. 3: H311 Toxic in contact with skin. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum classification); Specific target organ toxicity - Single exposure - STOT SE 1: H370 Causes damage to organs. (C >= 10 %; No information to prove exclusion of certain routes of exposure)603-001-00-X Specific target organ toxicity - Single exposure - STOT SE 1: H370 Causes damage to organs. (C >= 10 %; No information to prove exclusion of certain routes of exposure); Specific target organ toxicity - Single exposure - STOT SE 2: H371 May cause damage to organs. (3 % <= C <10 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given)603-001-00-X |
| Boron trifluoride | 7637-07-2 | Gases under pressure: H280 Contains gas under pressure, may explode when heated.; Acute toxicity - Inhalation - Acute Tox. 2: H330 Fatal if inhaled. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage.; Supplemental Hazards: EUH014 Reacts violently with water.005-001-00-X |

**EU - CLP (1272/2008)**

**R-phrase(s)**
R11 - Highly flammable
R35 - Causes severe burns
R60 - May impair fertility
R61 - May cause harm to the unborn child
R48 - Danger of serious damage to health by prolonged exposure
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

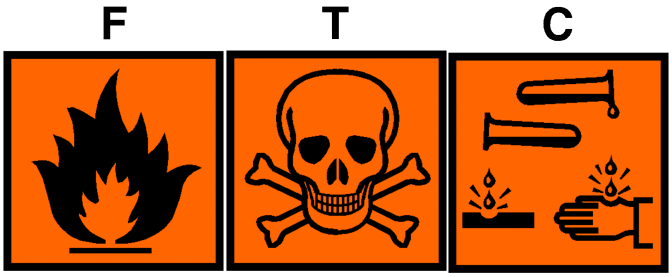
**S -phrase(s)**
S 7 - Keep container tightly closed.
S36 - Wear suitable protective clothing
S39 - Wear eye/face protection
S28 - After contact with skin, wash immediately with plenty of water
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S38 - In case of insufficient ventilation, wear suitable respiratory equipment
S16 - Keep away from sources of ignition - No smoking
S 1/2 - Keep locked up and out of the reach of children.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

| Component | CAS No | **Classification** | **Concentration Limits:** | **Safety Phrases** |
|---|---|---|---|---|
| Methyl Alcohol | 67-56-1 | F; R11<br>T; | 20%<=C: T;<br>R:23/24/25 | S1/2 S7 S16 S36/37 S45 |

| | | | | |
|---|---|---|---|---|
| | | R23/24/25-39/23/24/25 | 3%<=C<20%: Xn;<br>R:20/21/22<br>10%<=C: T;<br>R:39/23/24/25<br>3%<=C<10%: Xn;<br>R:68/20/21/22 | |
| Boron trifluoride | 7637-07-2 | R14<br>T+; R26<br>C; R35 | No information | S(1/2)-S9-S26-S28-S36/37/39-S45 |

**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

**Indication of danger:**
F - Highly flammable
T - Toxic
C - Corrosive




## 16. OTHER INFORMATION

**Preparation Date:** 07/17/2015
**Revision date** 11/08/2019
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**