Birch BIOTECH

Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Methanol
SYNONYMS: Methyl hydrate; Methyl hydroxide; Methyl Alcohol, Wood alcohol; Methylol
PRODUCT CODES: 1915, 1935

MANUFACTURER: Birch Biotech, LLC
ADDRESS: 690 Stockton Drive, Suite 106, Exton, PA 19341

CHEMTREC PHONE: 800-424-9300
SUPPORT: 484-318-2754

PRODUCT USE: HPLC, LC-MS Applications
PREPARED BY: AA

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Flammable liquid Category 2, Acute Toxicity, Dermal Category 3; Acute Toxicity, Inhalation Category 3; Acute Toxicity, Oral Category 3; Specific Target Organ Toxicity – single exposure (CNS, optic nerve, respiratory system) Category 1 Reproductive Toxicity Category 1



Signal Word: Danger!

Hazard Phrases	
H225	Highly flammable liquid and vapor
H301+H311	Toxic if swallowed or in contact with skin.
H370	Causes damage to organs.
H331	Toxic if inhaled.
H360	May damage fertility or the unborn child.

Precautionary Phrases	
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P263	Avoid contact during pregnancy and while nursing.
P264	Wash hands thoroughly after handling.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P304+P311	IF INHALED: Call a POISON CENTER or doctor/ physician.
P370+P378	In case of fire: Use CO2, dry chemical, or foam for extinction
P403+P233	Store in a well- ventilated place. Keep container tightly closed.

P405	Store locked up.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:	***CAS NO.***	***% VOL***
Methyl Alcohol	67-56-1	>99%

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.

SKIN: In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If skin irritation occurs: Get medical attention/advice.

INGESTION: Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if you feel unwell.

MOST IMPORTANT SYMPTOMS AND EFFECTS: Difficulty in breathing. May cause blindness: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 4 NOTES:
Note to Physician: Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY OF THE PRODUCT: OSHA/NFPA Class IB Flammable Liquid
FLASH POINT: 11°C (52°F) – closed cup
AUTOIGNITION TEMPERATURE: 464°C (867°F)

NFPA HAZARD CLASSIFICATION
HEALTH:2 FLAMMABILITY: 3 REACTIVITY: 0
OTHER:

HMIS HAZARD CLASSIFICATION
HEALTH:2 FLAMMABILITY: 3 REACTIVITY: 0
PROTECTION:

EXTINGUISHING MEDIA: Small fire – use DRY chemical powder, CO2, water spray or alcohol resistant foam. Large fire – use alcohol resistant foam, water spray or fog. Cool all affected containers with flooding quantities of water.
NOT SUITABLE: Do not use water jet.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing to protect contact with skin and eyes. Keep unopened containers cool by spraying with water. Alcohols burn with a pale blue flame which may be difficult to see under normal lighting conditions. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide
UNUSUAL FIRE AND EXPLOSION HAZARDS: May produce a floating fire hazard. Vapors may travel to source of ignition and flash back. Vapors may settle on low or confined spaces.

SECTION 5 NOTES: Static ignition hazard can result from handling and use. Keep away from sparking tools. ***ACCIDENTAL***

SECTION 6: ACCIDENTAL RELEASE MEASURES

RELEASE MEASURES:

Small spill and leak: Ensure adequate ventilation. Remove all sources of ignition. Dilute with water and mop, or absorb with an inert dry material and place in appropriate waste disposal container.
Large spill and leak: Keep away from heat and ignition sources. Stop leak if without risk. Absorb with DRY earth, sand, or other non-combustible material. Avoid skin and eye contact. Prevent entry into sewers, basements or confined areas; dike if needed. Additional protective equipment such as full-face respirator, full body suit and boots may be required.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING: Do not get in eyes or on skin. Do not breathe vapor or mist. If potential for splashing exists, protect skin by using sleeve protectors, aprons and face-shield. Immediately remove contaminated clothing. Wash thoroughly after handling.
STORAGE: Keep away from sources of ignition. Keep containers closed and out of reach of children. Ground all equipment containing material. Containers which are opened must be resealed and kept upright to prevent leakage. Store at room temperature.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS: General mechanical ventilation or laboratory fume hood. Ensure that eyewash stations and quick drench showers are close to the workstation.
PERSONAL PROTECTIVE MEASURES: Wear gloves, lab coat, eye protection and impervious footwear. Approved/certified respirator if airborne concentrations exceed exposure limits
ENVIRONMENTAL EXPOSURE CONTROLS: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
WORK HYGIENIC PRACTICES: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

EXPOSURE GUIDELINES:

Reagent	***CAS#***	***OSHA PEL TWA***	***Note***
Methyl Alcohol	67-56-1	200ppm (260 mg/m^3)	Absorbed through skin.

ACGIH Threshold Limit values (TLVs):

Reagent	***CAS#***	***ACGIH PEL TWA***	***ACGIH STEL***	***Note***
Methyl Alcohol	67-56-1	200ppm (260 mg/m^3)	250ppm (328 mg/m^3)	Absorbed through skin.

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear
ODOR: Sharp, pungent
PHYSICAL STATE: liquid
pH AS SUPPLIED: Not available
BOILING POINT: 65°C (147°F)
MELTING POINT/FREEZING POINT: -98°C (-144°F)

VAPOR PRESSURE (mmHg): 97.7 mmHg @ 20°C
VAPOR DENSITY (AIR = 1): 1.1
EVAPORATION RATE: Specific data not available, expected to be rapid.
SOLUBILITY IN WATER: Soluble in water
MOLECULAR WEIGHT: 32.04
VISCOSITY: Not established

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Product is stable under normal conditions of use.
CONDITIONS TO AVOID (STABILITY): Avoid heat, sparks, flames, and all other sources of ignition.
INCOMPATIBILITY (MATERIAL TO AVOID): Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Vapors may from explosive mixture with air. Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: oxides of carbon.
HAZARDOUS POLYMERIZATION: No hazardous polymerization
CONDITIONS TO AVOID: Heat, open flame

SECTION 10 NOTES:

SECTION 11:TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral: Methyl Alcohol: LD50 (oral, mouse) = 0.4 g/kg, LD50 (oral, rat) = 6.2-13 g/kg LD50 (oral, rabbit) = 14.4 g/kg
LDlo (Oral, human) 143 mg/kg (Signs and symptoms of dyspnea and GI disturbances such as nausea, vomiting and diarrhea)
Inhalation: Methyl Alcohol: LC50 (Inhalation, rat) = 128.2 mg/l 4 hrs; LC50 (Inhalation, rat) = 87.6 mg/l 6 hrs
Dermal LD50: Methyl Alcohol: Rabbit LD50 =17,100 mg/kg
Skin corrosion/irritation: No data available
Eyes: Rabbit: No eye irritation
Respiratory or skin sensitization: Maximization Test – Guinea Pig – Sensitization not displayed in laboratory animals when following OECD Test Guideline 406.
Germ cell mutagenicity: No data available

Carcinogenicity:
Methyl Alcohol: NIOSH: Not classifiable as a human carcinogen ACGIH: Not classifiable as a human carcinogen
NTP: Not classifiable as a human carcinogen IARC: Not classifiable as a human carcinogen
Aspiration hazard: no data available

POTENTIAL HEALTH EFFECTS:

EYES: Direct contact with the eyes produces a mild, reversible irritation, assuming treatment is initiated promptly.
SKIN: Cause moderate skin irritation. Can cause dermatitis by de-fatting the skin from prolonged or repeated contact. Methyl alcohol can be absorbed through skin and be toxic.
INGESTION: Methyl Alcohol can be fatal or cause blindness through ingestion. Ingestion may cause gastrointestinal disturbances such as nausea, vomiting and diarrhea. Cannot be made non-poisonous.
INHALATION: Toxic by inhalation. Vapor harmful. Can cause irritation to the respiratory tract.
CHRONIC HEALTH HAZARDS: Effects may be delayed. Prolonged exposure can cause liver, kidney, and heart damage. Long term exposure can cause loss of appetite, weight loss, nervousness, memory loss, mental retardation. Repeated skin exposure may cause defatting of the skin.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Dermatitis, emphysema, bronchitis and conjunctivitis.

SIGNS AND SYMPTOMS OF EXPOSURE: Central nervous system depression, blindness
ROUTES OF ENTRY: Ingestion, Skin/eye contact, inhalation
TARGET ORGANS: CNS, optic nerve, respiratory system

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL TOXICITY:
Methyl Alcohol 67-56-1
Acute Fish Toxicity:
LC50 / 96 hours Lepomis macrocirus: 15,400 mg/L / LC50 / 96 hours Fathead minnow: 29,400 mg/L
Toxic to Daphnia and Other Aquatic Invertebrates:
EC50 / 48 h / Water Flea – >10,000.00 mg/L
Toxicity to Aquatic Plants:
EC50 / 96 hours Scenedesmus capricornutum 22,000 mg/L

PERSISTANCE AND DEGRADABILITY: Biodegradation is expected
BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely.
MOBILITY IN SOIL: No data available
PBT and vPvB ASSESSMENT: Not required.

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Unused product: dispose as a regulated hazardous waste. Burn in a chemical incinerator equipped with an afterburner and scrubber. Take extra care in lighting as this material is highly flammable. Spent product or spill clean up-follow all provincial, local, state, and federal regulations.

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:
UN No. UN1230
Proper Shipping Name: Methanol
Hazard Class:3
Packing Group: II
Label Statement: Flammable liquid

IMDG
UN No. UN1230
Proper Shipping Name: Methanol
Hazard Class:3
Packing Group: II
EMS-No: F-E, S-D
Marine pollutant: No

IATA
UN No. UN1230
Proper Shipping Name: Methanol
Hazard Class:3
Packing Group: II

SECTION 15: REGULATORY INFORMATION

United States

HCS Classification: Flammable liquid, Target organ effects, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption

U.S. Federal regulations:

TSCA 8(a) IUR: Listed on inventory.

United States inventory (TSCA 8b): Listed on inventory.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Acute Health Hazard; Chronic Health Hazard, Fire Hazard

SARA 313 Form R – Reporting: The following components are subject to reporting levels established by SARA Title III, Section 313: METHANOL (CAS# 67-56-1)

DEA List I & II Chemicals (Precursor Chemicals): Not Listed

CERCLA: Methanol CAS-No. 67-56-1. RQ: 5,000 lbs

RTK STATES: Methyl Alcohol CAS 67-56-1 CT, MA, NJ, PA, RI

California Prop. 65

WARNING: This product can expose you to chemicals including Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

CANADA

WHMIS (Canada): Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects. (Toxic)
Class D-2A: Material causing other toxic effects. (Very Toxic)

Canadian lists:
CEPA Toxic substances: Listed
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Methanol Volatile organic compounds

CEPA DSL / CEPA NDSL: All components are listed or exempted.

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

International regulations

International lists:
Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

SECTION 16: OTHER INFORMATION

National Fire Protection Association (NFPA



DISCLAIMER: This Safety Data Sheet has been prepared in accordance with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries makes any warranty of merchantability or any other warranty, expressed or implied, which respect to such information, and we assume no liability resulting from its use. In no event shall Birch Biotech, LLC be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages resulting from use of or reliance upon this information.

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