



# SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2023

Date Updated: February 01, 2023

## SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

**Product Name** Methanol  
**Product Code(s)** MC6700  
**Recommended Use** For Laboratory Research Use Only  
Not for Human or Animal Drug Use

**Supplier** Bio Basic Inc.  
**Address** 20 Konrad Crescent, Markham, Ontario,  
Canada, L3R 8T4  
**Telephone** (905) 474 4493  
**Fax** (905) 474 5794  
**For Chemical Emergency Phone#** (416) 995 9730

## SECTION 2. ----- HAZARDS IDENTIFICATION -----

### Classification

Flammable liquid - Category 2; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 3; Eye irritation - Category 2A; Respiratory sensitization - Category 1B; Specific target organ toxicity (single exposure) - Category 1

### GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Dermal (Category 3), H311  
Specific target organ toxicity - single exposure (Category 1), Eyes, Central nervous system, H370

### Label Elements



Signal Word: Danger

### Hazard statement(s)

H225 Highly flammable liquid and vapor.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.  
H370 Causes damage to organs (Eyes, Central nervous system).

### Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.

- P260 Do not breathe mist or vapors.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
- P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
- P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

**Other Hazards**

None known.

**SECTION 3. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -**

Chemical Name	EC No.	CAS-No	Weight %
Methanol	200-659-6	67-56-1	<100

**SECTION 4. - - - - - FIRST-AID MEASURES - - - - -**

**First-aid Measures**

**Inhalation**

Move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

**Skin Contact**

Rinse skin with water or shower. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). If exposed or concerned, call a Poison Centre or doctor. Clean clothing, shoes and leather goods.

**Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Continue rinsing. Ensure that folded skin of eyelids is thoroughly washed with water. Obtain medical attention if pain, blinking or redness persists.

**Ingestion**

Rinse mouth with water. Do NOT induce vomiting. Obtain emergency medical attention. Never give anything by mouth to an unconscious person.

**First-aid Comments**

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTRE or doctor/physician. Methanol is toxic and flammable. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment and remove any sources of ignition).

## **Most Important Symptoms and Effects, Acute and Delayed**

See section 2.

## **SECTION 5. ----- FIRE FIGHTING MEASURES -----**

### **Suitable Extinguishing Media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder.

### **Unsuitable Extinguishing Media**

For this substance/mixture no limitations of extinguishing agents are given.

### **Specific Hazards Arising from the Product**

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapors possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### **Special Protective Equipment and Precautions for Fire-fighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## **SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----**

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

Eliminate all ignition sources. Use grounded, explosion-proof equipment. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### **Environmental Precautions**

Do not allow into any sewer, on the ground or into any waterway.

### **Methods and Materials for Containment and Cleaning Up**

Cover drains. Collect, bind, and pump off spills. Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

## **SECTION 7. ----- HANDLING AND STORAGE-----**

### **Precautions for Safe Handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### **Conditions for Safe Storage**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

**Storage class**

Storage class (TRGS 510): 3: Flammable liquids.

**SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -****Control Parameters**

Ingredients with workplace control parameters-

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm 262 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Substance may be readily absorbed through intact skin.			
		STEL	250 ppm 328 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin.			
		TWA	200 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		STEL	250 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		STEV	250 ppm 328 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWAEV	200 ppm 262 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)

**Derived No Effect Level (DNEL)**

Application Area	Routes of exposure	Health effect	Value
Workers	Skin contact	Long-term systemic effects	40mg/kg BW/d
Consumers	Skin contact	Long-term systemic effects	8mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	8mg/kg BW/d
Workers	Skin contact	Acute systemic effects	40mg/kg BW/d
Consumers	Skin contact	Acute systemic effects	8mg/kg BW/d
Consumers	Ingestion	Acute systemic effects	8mg/kg BW/d
Workers	Inhalation	Acute systemic effects	260 mg/m <sup>3</sup>
Workers	Inhalation	Acute local effects	260 mg/m <sup>3</sup>
Workers	Inhalation	Long-term systemic effects	260 mg/m <sup>3</sup>
Workers	Inhalation	Long-term local effects	260 mg/m <sup>3</sup>
Consumers	Inhalation	Acute systemic effects	50 mg/m <sup>3</sup>
Consumers	Inhalation	Acute local effects	50 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term systemic effects	50 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term local effects	50 mg/m <sup>3</sup>

## Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	23.5 mg/kg
Sea Water	15.4 mg/l
Fresh water	154 mg/l
Fresh water sediment	570.4 mg/kg
Onsite sewage treatment plant	100 mg/kg

### Exposure controls

#### **Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

##### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

##### Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

##### Splash contact

Material: Viton®

Minimum layer thickness: 0.7 mm

Break through time: 120 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

##### **Body Protection**

Flame retardant antistatic protective clothing.

##### **Respiratory protection**

Required when vapors/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

##### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

### **Basic Physical and Chemical Properties**

<b>Appearance</b>	Clear, liquid
<b>Odour</b>	characteristic
<b>Odour Threshold</b>	10 ppm
<b>pH</b>	Not applicable

<b>Melting Point/Freezing Point</b>	Melting point/range -98 °C (-144 °F)
<b>Initial Boiling Point/Range</b>	64.7 °C (148.5 °F)
<b>Flash Point</b>	9.7 °C (49.5 °F) - closed cup - Regulation (EC) No. 440/2008 Annex, A.9
<b>Evaporation Rate</b>	6.3 - Diethyl ether 1.9 - n-butyl acetate
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	44 %(V) (upper); 5.5 %(V) (lower)
<b>Vapour Pressure</b>	169.27 hPa at 25 °C (77 °F)
<b>Vapour Density (air = 1)</b>	1.11
<b>Relative Density (water = 1)</b>	0.79 - 0.820 °C
<b>Solubility</b>	1,000 g/l at 20 °C (68 °F) - completely miscible
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	log Pow: -0.77 at 25 °C (77 °F) - (HSDB)
<b>Auto-ignition Temperature</b>	455.0 °C (851.0 °F) at 1,013 hPa - DIN 51794
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	0.54 - 0.59 mm <sup>2</sup> /s at 20 °C (68 °F)

### Other Information

<b>Physical State</b>	Liquid
<b>Molecular Formula</b>	CH <sub>3</sub> OH
<b>Molecular Weight</b>	32.04
<b>Minimum ignition energy</b>	0.14 mJ
<b>Conductivity</b>	< 1 µS/cm

## SECTION 10. -----STABILITY AND REACTIVITY -----

### Reactivity

Vapors may form explosive mixture with air.

### Chemical Stability

The product is chemically stable under standard ambient conditions (room temperature).

### Possibility of Hazardous Reactions

Under fire conditions closed containers may rupture or explode.

Risk of explosion with: Oxidizing agents, salts of oxyhalogenic acids, nitrogen oxides, hydrides, permanganic acid.

### Conditions to Avoid

High temperatures. Open flames, sparks, static discharge, heat and other ignition sources. Sunlight.

### Incompatible Materials

Oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide). Methanol is not compatible with gasket and O-rings materials made of Buna-N and Nitrile.

### Hazardous Decomposition Products

Carbon monoxide. Carbon dioxide. May release flammable gases. Formaldehyde.

## SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

### Acute toxicity

Acute toxicity estimate Oral - 100.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Nausea, Vomiting

Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapor

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Irritation symptoms in the respiratory tract.

Acute toxicity estimate Dermal - 300.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation

Remarks: (ECHA)

Remarks: Drying-out effect resulting in rough and chapped skin.

### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

### **Respiratory or skin sensitization**

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

### **Germ cell mutagenicity**

Based on available data the classification criteria are not met.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

### **Carcinogenicity**

Did not show carcinogenic effects in animal experiments.

### **Reproductive toxicity**

Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

Causes damage to organs - Eyes, Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: PC1400000

Acute effects: Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision, irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma

Drying-out effect resulting in rough and chapped skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**SECTION 12. ----- ECOLOGICAL INFORMATION -----****Toxicity****Toxicity to fish** flow-through test LC50 - *Lepomis macrochirus* (Bluegill) - 15,400.0 mg/l - 96 h (US-EPA)**Toxicity to daphnia and other aquatic invertebrates**semi-static test EC50 - *Daphnia magna* (Water flea) - 18,260 mg/l - 96 h (OECD Test Guideline 202)**Toxicity to algae** static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) - ca. 22,000.0 mg/l - 96 h (OECD Test Guideline 201)**Toxicity to bacteria** static test IC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)**Toxicity to fish(Chronic toxicity)** NOEC - *Oryzias latipes* (Orange-red killifish) - 7,900 mg/l - 200 h  
Remarks: (External MSDS)**Persistence and degradability**Biodegradability Result: 99 % - Readily biodegradable.  
(OECD Test Guideline 301D)Biochemical Oxygen Demand (BOD) 600 - 1,120 mg/g  
Remarks: (IUCLID)Chemical Oxygen Demand (COD) 1,420 mg/g  
Remarks: (IUCLID)Theoretical oxygen demand 1,500 mg/g  
Remarks: (Lit.)Ratio BOD/ThBOD 76 %  
Remarks: Closed Bottle test (IUCLID)

**Bioaccumulative potential**

Bioaccumulation                      Cyprinus carpio (Carp) - 72 d at 20 °C - 5 mg/l(Methanol)  
 Bioconcentration factor (BCF): 1.0

**Mobility in soil**

Will not adsorb on soil.

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Endocrine disrupting properties**

No data available

**Other adverse effects**

Additional ecological information- Avoid release to the environment.

Stability in water: At 19 °C 83 - 91 % - 72 h

Remarks: Hydrolyzes on contact with water. Hydrolyzes readily.- 2.2 yr

Remarks: reaction with hydroxyl radicals(IUCLID)

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----****Disposal Methods**

Recycle and reuse product, if possible. Dispose of contents and container in accordance with local, regional, national and international regulations. The container for this product can present explosion or fire hazards, even when emptied. Do not cut, puncture, or weld on or near this container. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Treat waste in an approved waste disposal facility.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1230	Methanol	3 (6.1)	II
US DOT	UN1230	Methanol	3 (6.1)	II
IATA (Air)	UN1230	Methanol	3 (6.1)	II
IMDG	UN1230	Methanol	3 (6.1)	II
IMO (Marine)	UN1230	Methanol	3 (6.1)	II

**SECTION 15. ----- REGULATORY INFORMATION -----****Safety, Health and Environmental Regulations****Canada****WHMIS 1988 Classification**

Class B2



Class D1A



Class D2A; D2B

B2 - Flammable Liquid; D1A - Very Toxic; D2A - Very Toxic; D2B – Toxic

## USA

### **Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

### **Additional USA Regulatory Lists**

SARA Title III - Section 302: Listed SARA Title III - Section 311/312: Fire hazard Immediate (acute) health hazard.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

## **SECTION 16. ----- OTHER INFORMATION-----**

**NFPA Rating                      Health - 1      Flammability - 3      Instability - 0**

Further information: no limited for paper copy, just for internal uses.  
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

### **Disclaimer**

The information provided on this MSDS 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.

**Issuing Date:** 01-Aug-2019

**End of SDS**