

Wizard CRYO

**1. Identification**

<b>Product identifier</b>	<b>Wizard CRYO</b>		
<b>Other means of identification</b>	Not available.		
<b>Recommended use</b>	For laboratory use.		
<b>Recommended restrictions</b>	None known.		
<b>Manufacturer / Importer / Supplier / Distributor information</b>			
<b>Company name</b>	Emerald BioSystems, Inc.		
<b>Address</b>	7869 NE Day Road W Bainbridge Island, WA 98110 US		
<b>Telephone</b>	General Information:	855-436-2467	
<b>E-mail</b>	MSDS@embios.com		
<b>Contact person</b>	Product department		
<b>Emergency phone number</b>	24 Hour Emergency:	855-436-2467	

**2. Hazard(s) identification**

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2B
	Reproductive toxicity	Category 1B
<b>OSHA hazard(s)</b>	Not classified.	

**Label elements**

**Hazard symbol**



**Signal word** Danger

**Hazard statement** Flammable liquid and vapor. Causes eye irritation. May damage fertility or the unborn child.

**Precautionary statement**

**Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

**Response**

In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention.

**Storage**

Store in a well-ventilated place. Keep cool.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)**

Not classified.

**Environmental hazards**

Hazardous to the aquatic environment, acute hazard	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 3

**Supplemental information**

**Hazard statement** Harmful to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention** Avoid release to the environment.

**3. Composition/information on ingredients**

**Mixture**

Hazardous components Chemical name	Common name and synonyms	CAS number	%
Poly(oxy-1,2-ethanediyl) ethoxylated		25322-68-3	23.5
Ethylene glycol		107-21-1	5.5
2-Methylpentane-2,4-diol		107-41-5	4.2
Propylene glycol		57-55-6	4
Glycerin		56-81-5	2.5
Isopropyl alcohol		67-63-0	2.3
2-Ethoxyethanol		110-80-5	1.8
Ethanol		64-17-5	1.3
Zinc acetate		5970-45-6	0.3
Sodium cacodylate		6131-99-3	0.2
Methanol		67-56-1	0.1

**Composition comments** This Safety Data Sheet is a summation of the composition and hazards of the individual solutions that comprise the product as a whole. Individual wells have varying compositions and hazard profiles.

#### 4. First-aid measures

**Inhalation**

If symptomatic, move to fresh air. Get medical attention if symptoms persist.

**Skin contact**

Wash with soap and water. Get medical attention if symptoms occur after washing.

**Eye contact**

Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.

**Ingestion**

Seek medical advice.

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

Causes eye irritation. May damage fertility or the unborn child.

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

Treat symptomatically.

#### 5. Fire-fighting measures

**Suitable extinguishing media**

Water. Water fog. Alcohol resistant foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media**

Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

Flammable liquid and vapor. Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. Container may explode in heat of fire.

**Special protective equipment and precautions for firefighters**

None known.

**Fire-fighting equipment/instructions**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Specific methods**

Use water spray to keep fire-exposed containers cool.

#### 6. Accidental release measures

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

Wear protective clothing as described in Section 8 of this safety data sheet.

**Methods and materials for containment and cleaning up**

Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a sealed container for chemical waste.

Large Spills: Flush area with water. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling** Keep away from heat, sparks and open flame. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

**Conditions for safe storage, including any incompatibilities** Keep containers tightly closed in a cool, well-ventilated place. Store locked up. Store away from incompatible materials (See Section 10).

**8. Exposure controls/personal protection**

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
2-Ethoxyethanol (CAS 110-80-5)	PEL	740 mg/m3	
Ethanol (CAS 64-17-5)	PEL	200 ppm 1900 mg/m3	
Glycerin (CAS 56-81-5)	PEL	1000 ppm 5 mg/m3	Respirable fraction. Total dust.
Isopropyl alcohol (CAS 67-63-0)	PEL	15 mg/m3 980 mg/m3	
Methanol (CAS 67-56-1)	PEL	400 ppm 260 mg/m3 200 ppm	

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
2-Ethoxyethanol (CAS 110-80-5)	TWA	5 ppm	
2-Methylpentane-2,4-diol (CAS 107-41-5)	Ceiling	25 ppm	
Ethanol (CAS 64-17-5)	STEL	1000 ppm	
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Glycerin (CAS 56-81-5)	TWA	10 mg/m3	Mist.
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
Methanol (CAS 67-56-1)	TWA STEL TWA	200 ppm 250 ppm 200 ppm	

**US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)**

Components	Type	Value
2-Methylpentane-2,4-diol (CAS 107-41-5)	Ceiling	125 mg/m3 25 ppm

**US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)**

Components	Type	Value
2-Ethoxyethanol (CAS 110-80-5)	TWA	1.8 mg/m3 0.5 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3 1000 ppm
Isopropyl alcohol (CAS 67-63-0)	TWA	980 mg/m3 400 ppm
Methanol (CAS 67-56-1)	TWA	260 mg/m3 200 ppm

**US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)**

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm

**US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)**

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	325 mg/m3 250 ppm

**US. Workplace Environmental Exposure Level (WEEL) Guides**

Components	Type	Value	Form
Poly(oxy-1,2-ethanediyl) ethoxylated (CAS 25322-68-3)	TWA	10 mg/m3	Particulate.
Propylene glycol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.

**Biological limit values**

**US. ACGIH. BEIs. Biological Exposure Indices**

Components	Value	Determinant	Sampling Time
2-Ethoxyethanol (CAS 110-80-5)	100 mg/g	2-Ethoxyacetic acid	*
Isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetone	*
Methanol (CAS 67-56-1)	15 mg/l	Methanol	*

\* - For sampling details, please see the source document.

**Exposure guidelines**

**US. ACGIH Threshold Limit Values**

- 2-Ethoxyethanol (CAS 110-80-5) Can be absorbed through the skin.
- Methanol (CAS 67-56-1) Can be absorbed through the skin.

**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

- 2-ETHOXYETHANOL (CAS 110-80-5) Can be absorbed through the skin.
- METHYL ALCOHOL; METHANOL (CAS 67-56-1) Can be absorbed through the skin.

**US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).**

- 2-Ethoxyethanol (CAS 110-80-5) Skin designation applies.
- Methanol (CAS 67-56-1) Skin designation applies.

**US. NIOSH: Pocket Guide to Chemical Hazards**

- 2-Ethoxyethanol (CAS 110-80-5) Can be absorbed through the skin.
- Methanol (CAS 67-56-1) Can be absorbed through the skin.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

- 2-Ethoxyethanol (CAS 110-80-5) Can be absorbed through the skin.

**US. OSHA Table Z-1-A (29 CFR 1910.1000)**

- 2-Ethoxyethanol (CAS 110-80-5) Can be absorbed through the skin.
- Methanol (CAS 67-56-1) Can be absorbed through the skin.

**US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A**

- 2-Ethoxyethanol (CAS 110-80-5) Can be absorbed through the skin.
- Methanol (CAS 67-56-1) Can be absorbed through the skin.

**Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas.

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

**Eye/face protection**

Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

**Skin protection**

**Hand protection**

Chemical resistant gloves are recommended.

**Other**

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

**Respiratory protection**

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

**Thermal hazards**

Not applicable.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

<b>Appearance</b>	Not available.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	118.4 °F (48 °C) Estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non reactive under normal conditions of storage and transport.
<b>Chemical stability</b>	Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame.
<b>Incompatible materials</b>	Strong oxidizing agents. Acids.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	No harmful effects expected in amounts likely to be ingested by accident.
<b>Inhalation</b>	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
<b>Skin contact</b>	Under normal conditions of intended use, this material does not pose a skin hazard.
<b>Eye contact</b>	Causes eye irritation.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Causes eye irritation. May damage fertility or the unborn child.

### Information on toxicological effects

<b>Acute toxicity</b>	No adverse effects are expected.
<b>Skin corrosion/irritation</b>	Not assigned.
<b>Serious eye damage/eye irritation</b>	Causes eye irritation.
<b>Respiratory sensitization</b>	Not assigned.

<b>Skin sensitization</b>	Not assigned.
<b>Germ cell mutagenicity</b>	Not assigned.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity</b>	May damage fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	Not assigned.
<b>Specific target organ toxicity - repeated exposure</b>	Not assigned.
<b>Aspiration hazard</b>	Not applicable.

**12. Ecological information**

**Ecotoxicity** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components	Species	Test Results
Zinc acetate (CAS 5970-45-6)		
<b>Aquatic</b>		
Fish	LC50 Fathead minnow ( <i>Pimephales promelas</i> )	0.48 - 1.14 mg/l, 96 hours

<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	Not available.
<b>Other adverse effects</b>	Not available.

**13. Disposal considerations**

<b>Disposal instructions</b>	Do not discharge into drains, water courses or onto the ground.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**US RCRA Hazardous Waste U List: Reference**

2-Ethoxyethanol (CAS 110-80-5)	U359
Methanol (CAS 67-56-1)	U154

<b>Waste from residues / unused products</b>	Recover and recycle, if practical.
<b>Contaminated packaging</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

<b>UN number</b>	UN1987
<b>UN proper shipping name</b>	Alcohols, n.o.s.
<b>Transport hazard class(es)</b>	Combustible Liquid
<b>Subsidiary class(es)</b>	-
<b>Packing group</b>	III
<b>Special precautions for user</b>	Not available.
<b>Labels required</b>	3
<b>Special provisions</b>	172, B1, IB3, T4, TP1, TP29
<b>Packaging exceptions</b>	4b, 150
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	242

**IATA**

<b>UN number</b>	UN1987
<b>UN proper shipping name</b>	Alcohols, n.o.s.
<b>Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>Packaging group</b>	III
<b>Environmental hazards</b>	No
<b>Labels required</b>	Not available.
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Not available.

**IMDG**

<b>UN number</b>	UN1987
<b>UN proper shipping name</b>	ALCOHOLS, N.O.S.
<b>Transport hazard class(es)</b>	3

**Subsidiary class(es)** -  
**Packaging group** III  
**Environmental hazards**  
     **Marine pollutant** No  
**Labels required** Not available.  
**Ems** F-E, S-D  
**Special precautions for user** Not available.  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available.

**15. Regulatory information**

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

2-Ethoxyethanol (CAS 110-80-5) 1.0 % One-Time Export Notification only.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not on regulatory list.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

2-Ethoxyethanol (CAS 110-80-5)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Ethylene glycol (CAS 107-21-1)	LISTED
Methanol (CAS 67-56-1)	LISTED
Sodium cacodylate (CAS 6131-99-3)	LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**  
 Immediate Hazard - Yes  
 Delayed Hazard - Yes  
 Fire Hazard - Yes  
 Pressure Hazard - No  
 Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** Yes

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

2-Ethoxyethanol (CAS 110-80-5)  
 Ethylene glycol (CAS 107-21-1)  
 Methanol (CAS 67-56-1)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations** WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**US. Massachusetts RTK - Substance List**

2-Ethoxyethanol (CAS 110-80-5)  
 2-Methylpentane-2,4-diol (CAS 107-41-5)  
 Ethanol (CAS 64-17-5)  
 Ethylene glycol (CAS 107-21-1)  
 Glycerin (CAS 56-81-5)  
 Isopropyl alcohol (CAS 67-63-0)  
 Methanol (CAS 67-56-1)  
 Zinc acetate (CAS 5970-45-6)

**US. New Jersey Worker and Community Right-to-Know Act**

2-Ethoxyethanol (CAS 110-80-5)	500 lbs
Ethylene glycol (CAS 107-21-1)	500 lbs
Methanol (CAS 67-56-1)	500 lbs
Sodium cacodylate (CAS 6131-99-3)	500 lbs
Zinc acetate (CAS 5970-45-6)	500 lbs

**US. Pennsylvania RTK - Hazardous Substances**

2-Ethoxyethanol (CAS 110-80-5)  
 2-Methylpentane-2,4-diol (CAS 107-41-5)

Ethanol (CAS 64-17-5)  
 Ethylene glycol (CAS 107-21-1)  
 Glycerin (CAS 56-81-5)  
 Isopropyl alcohol (CAS 67-63-0)  
 Methanol (CAS 67-56-1)  
 Propylene glycol (CAS 57-55-6)  
 Zinc acetate (CAS 5970-45-6)

**US. Rhode Island RTK**

2-Ethoxyethanol (CAS 110-80-5)  
 Ethylene glycol (CAS 107-21-1)  
 Isopropyl alcohol (CAS 67-63-0)  
 Methanol (CAS 67-56-1)  
 Sodium cacodylate (CAS 6131-99-3)

**US. California Proposition 65**

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

2-Ethoxyethanol (CAS 110-80-5)  
 Methanol (CAS 67-56-1)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

**16. Other information, including date of preparation or last version**

<b>Issue date</b>	02-26-2013
<b>Revision date</b>	-
<b>Version #</b>	01
<b>Disclaimer</b>	The information given is based on data available for the material, the components of the material, and similar materials.