

Material Data Safety Sheet

SECTION 1: Chemical Product and Company Identification

CoolCell[®] Filler Vials, BCS-3105, BCS-3106

Product name: CoolCell Filler Vials, BCS-3105, BCS-3106
MSDS Number: 00102
Product use description: Solvent

Manufacturer: BioCision, LLC
12 E. Sir Francis Drake Blvd.
Suite B
Larkspur, CA 94939
Phone: 1.888.478.2221
Email: info@biocision.com

In case of emergency call: (24 hours/day, 7 days/week)
1-800-424-9300 (USA Only)
For Transportation Emergencies:
1-800-424-9300 (CHEMTREC- Domestic)

SECTION 2: Composition/Information on Ingredients

Component: Glycerol
CAS-Number: 56-81-5
Weight %: 100.00
GLYCEROL
TWA: 10 MG/M³ (GLYCERIN MIST – TOTAL DUST); 5 MG/M³
(GLYCERIN) MIST - RESPIRABLE FRACTION

ACGIH TLV: TWA- N/A; STEL: N/A

NIOSH REL: TWA- N/A; STEL: N/A

NIOSH Ingredient:- N/A; STEL: N/A

SECTION 3: Hazards Identification

Emergency Overview: Substance may be irritating of eyes and skin. May cause irritation of respiratory tract. May cause effects on central nervous system

Form: Liquid
Color: Green, altered (Colorless in pure form) (See section 16)
Odor: Slight

Hazard Summary: May be harmful if absorbed through skin. May irritate eyes. May irritate skin. May cause respiratory tract irritation. May cause irritation of the gastrointestinal tract. Can be absorbed through skin. Skin absorption can transport other toxins into the body. Repeated exposure may cause skin dryness or cracking. May cause allergic skin reaction.

Potential Health Effects

- Eyes:** Irritating to eyes
Skin: Irritating to skin. Maybe harmful in contact to skin.
Inhalation: May cause of respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful is swallowed. May have effects on the central nervous system.

	HMIS (USA) Classification	NFPA Rating
Health Hazard:	1	1
Flammability:	1	1
Physical Hazard:	0	0
Instability	g	

Acute Effects

Principle Routes of Exposure

- Eyes:** May irritate eyes. Signs/symptoms can include redness swelling, pain and tearing.
Skin: Irritating to skin. May be harmful in contact with skin.
Ingestion: May cause irritation of the gastrointestinal tract. May cause nausea, vomiting, diarrhea, and abdominal discomfort. May cause systemic poisoning with symptoms paralleling those of inhalation.
Inhalation: May cause respiratory tract irritation. Causes headache, drowsiness other effects to the central nervous system.
- Chronic Exposure:** Experimental studies on animals have reported the tumorigenic effects. Experiments have shown reproductive toxicity effects on laboratory animals. May have adverse effects on kidneys
- Target Organs:** Eyes
Skin
Respiratory system
Gastrointestinal tract
Central nervous system
- Carcinogenicity:** Not available.

SECTION 4: First Aid Measures

- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
- Skin Contact:** Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call physician if irritation develops or persists.
- Eye Contact:** Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.
- Treatment:** Notes to Physician: Treat symptomatically

SECTION 5: Fire and Explosion Data

Flammability of the Product:	Non-flammable in normal conditions. May be combustible at high temperature.
Flash point (closed cup):	160°C (320°F)
Flush point (open cup):	177°C (350.6°F)
Auto-Ignition point:	400°C (752°F)
Lower explosion limit:	1.1% (Vol.)
Upper explosion limit:	No data available
Suitable extinguishing media:	Carbon dioxide (CO ₂), Dry chemical, Foam
Fire Hazards in Presents of Various Substances:	Slightly flammable to flammable in presence of open flames and sparks, of heat, of oxidizing materials. Non-flammable in presence of shocks.
Specific Remarks on Fire Hazards:	No data available
Specific remarks on Explosion Hazards:	Glycerin is incompatible with strong oxidizers such as chromium trioxide, potassium chlorate, or potassium permanganate and may explode on contact with these compounds. Explosive glyceryl nitrate is formed from a mixture of glycerin and nitric and sulfuric acids. Perchloric acid , lead oxide + glycerin form perchloric esters which may be explosive. Glycerin and chlorine may explode if heated and confined.
Specific remarks on protective equipment:	Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental Release Measures

Small Spills:	Dilute with water and mop up, or absorb with an inert dry material and place it in an appropriate waste disposal container.
Large Spills:	Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.
Environmental precautions:	Should not be released into the environment.

SECTION 7: Handling and Storage

Precautions:	No data available
Handling:	Wear personal protective equipment. Use only in well-ventilated areas. Do not smoke. Do not swallow. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.
Requirements for storage areas and containers:	Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8: Exposure Controls/Personal Protection

Engineering Controls:	Ensure adequate ventilation, especially in confined areas.
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	Ensure that eyewash stations and safety showers are close to the workstation location.
Personal 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
Hand protection:	Wear appropriate gloves prior to use. Replace when worn.
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 EN149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Use NIOSH approved respiratory protection.
Hygiene protection:	Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.
Exposure limits:	Glycerol (Glycerine)
	ACGIH TLV TWA: 10 mg/m ³
	OSHA PEL (Vacated) TWA: 10 mg/m ³
	(Vacated) TWA: 5 mg/m ³
	TWA: 15 mg/m ³
	TWA: 5 mg/m ³

SECTION 9: Physical and Chemical Properties

Physical State and appearance:	Viscous liquid, Clear
Color:	Green, altered (Colorless in pure form)
Odor:	Slight
Odor threshold:	No information available
Taste:	Sweet
Boiling point:	290°C (554°F)
pH:	5 100 g/L aq. sol.
Vapor pressure:	189°C (372°F)
Vapor density:	3.17 (Air = 1)
Relative vapor density:	0.003 mbar @ 50 °C
Density:	1.261g/cm ³
Water solubility:	Soluble
Molecular weight:	92.09
Molecular formula:	C ₃ H ₈ O ₃
Solubility:	Miscible in cold water, hot water and alcohol. Partially soluble in acetone. Very slightly soluble in diethyl ether (ethyl ether). Limited solubility in ethyl acetate. Insoluble in carbon tetrachloride, benzene, chloroform, petroleum ethers, and oils.

SECTION 10: Stability and Reactivity

Stability:	Product is stable. Hygroscopic
Incompatibility with Various Substances:	Highly reactive with oxidizing agents.
Conditions of Instability:	Avoid contact with incompatible materials, excess heat and

ignition, sources, moisture.

Hazardous decomposition products:

No Information available

Hazardous reactions:

Hygroscopic. Glycerin is incompatible with strong oxidizers such as chromium trioxide, potassium chlorate, or potassium permanganate. Glycerin may react violently with acetic anhydride, aniline and nitrobenzene, chromic oxide, lead oxide and fluorine, phosphorous triiodide, ethylene oxide and heat, silver perchlorate, sodium peroxide, sodium hydride.

Corrosivity:

Non-corrosive in presence of glass

Polymerization:

Will not occur

SECTION 11: Toxicological Information

Route of Entry:

Absorbed through skin. Eye contact. Inhalation

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.

Acute oral toxicity (LD50): 4090 mg/kg [Mouse]. Acute dermal toxicity (LD50): 10000 mg/kg [Rabbit]. Acute toxicity of the mist (LC50): >570 mg/m³ 31 hours [Rat].

Toxic Effects on Humans:

May cause damage to the following organs: kidneys.

Special Remarks on Chronic Effects on Humans:

Glycerol is transferred across the placenta in small amounts. May cause adverse reproductive effects based on animal data (Paternal Effects (Rat): Spermatogenesis (including genetic material, sperm morphology, motility, and count), Testes, epididymis, sperm duct). May affect genetic material

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Low hazard for normal industrial handling or normal workplace conditions. Skin: May cause skin irritation. May be absorbed through skin Eyes: May cause eye irritation with stinging, redness, burning sensation, and tearing, but no eye injury. Ingestion: Low hazard. Low toxicity except with very large doses. When large doses are ingested, it can cause gastrointestinal tract irritation with thirst (dehydration), nausea or vomiting diarrhea. It may also affects behavior/central nervous system/nervous system (central nervous system depression, general anesthetic, headache, dizziness, confusion, insomnia, toxic psychosis, muscle weakness, paralysis, convulsions), urinary system/kidneys(renal failure, hemoglobinuria), cardiovascular system (cardiac arrhythmias), liver. It may also cause elevated blood sugar. Inhalation: Due to low vapor pressure, inhalation of the vapors at room temperature is unlikely. Inhalation of mist may cause respiratory tract irritation. Chronic Potential Health Effects: Ingestion: Prolonged or repeated ingestion may affect the blood (hemolysis, changes in white blood cell count), endocrine system (changes in adrenal weight), respiratory system, and may cause kidney injury.

SECTION 12: Ecological Information

- Toxicity to fish:** Eco-toxicity in water (LC50): 58.5 ppm 96 hours [Trout].
- Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
- Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

SECTION 13: Disposal Considerations Product

- Waste Disposal:** Must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: Transport Information

- DOT Classification:** Not a DOT controlled material (United States)
- TDG** Not controlled under TDG (Canada)
- IATA** Not dangerous goods. Not regulated
- IMDG** Not dangerous goods. Not regulated.
- Special Provisions for Transport:** Not applicable

SECTION 15: Regulatory Information

- US. Toxic Substances Control Act:** Illinois toxic substances disclosure to employee act: Glycerin
Rhode Island RTK hazardous substances: Glycerin Pennsylvania RTK: Glycerin Minnesota: Glycerin Massachusetts RTK: Glycerin Tennessee - Hazardous Right to Know: Glycerin TSCA 8(b) inventory: Glycerin
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
- Other Regulations:**

Other Classifications

- WHMIS (Canada):** Not controlled under WHMIS (Canada).
- DSCL (EEC):** Not available S24/25- Avoid contact with skin and eyes.

Other Information

	HMIS (USA) Classification	NFPA Rating
Health Hazard:	1	1
Flammability:	1	1
Physical Hazard:	0	0
Instability:	g	

- Protective Equipment:** Safety glasses. Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

SECTION 16: Other information

Color enhancement: Diluted natural green food coloring dye added to glycerol.

References: Not available

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Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biocision, LLC shall not be held liable for any claims, losses or damages resulting from handling or from contact with the above product.