

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier:	10076 Propylene Glycol 3L (3 US Qt)
1.2 Relevant identified uses of the substance or mixture and uses advised against:	Relevant identified Use(s): For use with the Grainfather Glycol Chiller to achieve effective cooling of the Grainfather Conical Fermenter Uses advised against: Not available
1.3 Details of the supplier of the Safety Data Sheet:	BSGi NZ Limited, trading as Bevie Craft <u>Address:</u> 328 Rosedale Road, Albany, Auckland, New Zealand <u>Telephone:</u> +64 9 415 1206 <u>Email:</u> customerservice@bevie.co
1.4 Emergency telephone number:	Telephone number: +64 9 415 1206 Opening Hours: 7.30am to 4.30pm, Monday to Thursday; 8.00am to 2pm Friday

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 Classification according to Hazardous Substances and New Organisms (HSNO) Not hazardous	
2.1.2 Classification according to Globally Harmonised System (GHS) Not hazardous	
2.1.3 Additional information Not applicable	
2.2 Label elements Labelling according to GHS	
Hazard pictogram(s):	Not applicable
Signal Word:	Not applicable
Hazard Statement(s):	No significant immediate hazards for emergency response are known.
Precautionary Statement(s):	Eye Contact: May cause slight temporary irritation. Mist may cause eye irritation. Skin Contact: Repeated contact may cause flaking and softening of the skin. Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts. Inhalation: Mist may cause irritation of upper respiratory tract (nose and throat). Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

	Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.
2.3 Other hazards	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS #	Proportion	Classification according to HSNO
Propylene Glycol	57-55-6	>99.8%	Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures: General advice: If potential for exposure exists, refer to Section 8 for specific personal protective equipment.	
Following inhalation:	Move person to fresh air, if effects occur, consult a physician.
Following skin contact:	Wash skin with plenty of water.
Following eye contact:	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Following Ingestion:	No emergency medical treatment necessary.
Self protection of the first aider:	Not applicable.
4.2 Most important symptoms and effects, both acute and delayed Aside from the Information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.	
4.3 Indication of any immediate medical attention and special treatment needed No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.	

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media:	<p>Suitable extinguishing media: Water fog or fine spray, Dry chemical fire extinguishers, Carbon dioxide fire extinguishers, foam, alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function but will be less effective.</p> <p>Extinguishing media to avoid: Do not use direct water stream, may spread fire.</p>
5.2 Special hazards arising	Hazardous combustion products: During a fire, some may contain

from the substance or mixture:	<p>the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide, carbon dioxide.</p> <p>Unusual fire and explosion hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.</p>
5.3 Advice for fire-fighters:	<p>Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use water or direct stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.</p> <p>Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or a safe distance.</p>

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	
6.1.1 For non-emergency personnel	Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
6.1.2 For emergency responders	Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard.
6.2 Environmental precautions:	Prevent from entering soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information.
6.3 Methods and material for containment and cleaning up	
6.3.1 For containment:	Contain spilled material if possible. Use any absorbent material. Collect in suitable and properly labelled open containers.
6.3.2 For cleaning up:	Wash the spill site with large quantities of water. For large spills, dike the area to contain spill. Pump into suitable and properly labelled containers.
6.3.3 Other information:	Not available.
6.4 Reference to other sections	Refer to Section 13: Disposal Consideration for additional information.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:	Product handled hot may require additional ventilation or local exhaust. See Section 8 Exposure Controls and Personal Protection. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto-ignition temperatures possibly resulting in spontaneous combustion.
7.2 Conditions for safe storage, including any incompatibilities:	Store in a dry place, away from direct sunlight. Do not store above 40°C (104°F). Keep container tightly closed when not in use. Store in the following materials: stainless steel, aluminium, container lined with phenolic or epoxy-phenolic FDA food contact approved coating.
7.3 Specific end use(s):	Not available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters			
8.1.1 Occupational exposure limits:			
Substance	CAS Registry Number	TWA (mg/m³)	STEL
Propylene glycol	57-55-6	10mg/m ³ (aerosol)	Not available
Information on monitoring procedures: Not available			
DNEL/DMEL and PNEC-Values: Not available			
8.2 Exposure controls			
8.2.1 Appropriate engineering controls:		Ventilation: Use of local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.	
8.2.2 Personal protection equipment:		<p>Eye and face protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.</p> <p>Skin protection: No precautions other than clean body-covering clothing should be needed. Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimised.</p> <p>Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have</p>	

	<p>been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: organic vapour cartridge with a particulate pre-filter.</p> <p>Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.</p>
8.2.3 Environmental exposure controls:	Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid
Odour:	Odourless
Odour threshold:	Not available
pH:	Not applicable
Melting point/ freezing point:	Melting point: <-20°C EU Method A1 (<i>Melting/ Freezing Temperature</i>) Freezing point: <-20°C EC Method A1
Initial boiling point and boiling range:	184°C EU Method A2 (<i>Boiling Temperature</i>)
Flashpoint:	104°C EC Method A9 (PMCC) (closed cup)
Evaporation rate:	0.01 (estimated) (butyl acetate =1)
Flammability (solid, gas):	Not applicable to liquids
Upper/ lower flammability or explosive limits:	Flammable Limits in Air: Lower: 2.6% (V) estimated Upper: 12.5% (V) estimated
Vapour pressure:	20 Pa @ 25°C EC Method A4
Vapour density:	2.62 (literature) Air = 1
Specific gravity:	1.03 20°C/20°C EU Method A.3 (<i>relative density</i>)
Solubility:	100% @ 20°C EU Method A.6 (<i>water solubility</i>)
Partition coefficient: n-octanol/water:	-1.07 EU Method A.8 (<i>Partition Coefficient</i>)
Auto-ignition temperature:	100.01 kPa > 400°C EC Method A15
Decomposition temperature:	No test data available
Viscosity:	Dynamic viscosity 43.4 mPa.s @ 25°C (<i>literature</i>)
Explosive properties:	Not explosive
Oxidising properties:	No

Pour point:	<-57°C (<i>literature</i>)
Henry's Law Constant (H)	1.2E-08 atm*m3/mole (<i>measured</i>)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:	No dangerous reaction known under conditions of normal use.
10.2 Chemical stability:	Stable under recommended storage conditions. See storage on Section 7. Hygroscopic.
10.3 Possibility of hazardous reactions:	Polymerization will not occur.
10.4 Conditions to avoid:	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.
10.5 Incompatible materials:	Avoid contact with strong acids, strong bases, strong oxidisers.
10.6 Hazardous decomposition products:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to aldehydes, alcohols, ethers, organic acids.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity:	Ingestion: LD50, rat > 20000 mg/kg Dermal: LD50, rabbit >2000mg/kg Inhalation: No deaths occurred at this concentration. LC50, 2h, Aerosol, rabbit 317.042 mg/l
Skin corrosion/irritation:	Did not cause allergic skin reactions when tested in humans.
Serious eye damage/ irritation:	May cause slight temporary eye irritation. Corneal injury is unlikely. Mist may cause eye irritation.
Respiratory or skin sensitisation:	Prolonged contact is essentially non-irritating to skin. Repeated contact may cause flaking and softening of skin.
Germ cell mutagenicity:	Not available
Carcinogenicity:	Do not cause cancer in laboratory animals.
Reproductive toxicity:	In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.
Summary of evaluation of the CMR properties:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/ EC50/ EL50/ LL50 > 100mg/L in the most sensitive species tested).

Acute (short-term) toxicity:	<p>Fish: LC50, <i>Oncorhynchus mykiss</i> (rainbow trout), static test, 96h: 40.613mg/l</p> <p>Aquatic Invertebrate Acute Toxicity: LC50, <i>Ceriodaphnia Dubia</i> (water flea), static test, 48h: 18340mg/l</p> <p>Aquatic Plant Toxicity: ErC50, <i>Pseudokirchneriella subcapitata</i> (green algae), Growth rate inhabitation, 96h: 19000mg/l</p> <p>Toxicity to Microorganims: NOEC, no data available; <i>Pseudomonas putida</i>, 18h: >20000mg/l</p> <p>Aquatic Invertebrates Chronic Toxicity Value: <i>Ceriodaphnia Dubia</i> (water flea), semi-static test, 7d, reproduction, NOEC: 13020mg/l</p>
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Chronic (long-term) toxicity:	Not available
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12.2 Persistence and degradability:	<p>Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).</p> <p>OECD Biodegradation Tests: biodegradation, exposure time, method, 10 day window 81%, 28d, OECD 301F Test, pass 96%. 64d, OECD 306 Test, not applicable</p> <p>Indirect Photodegradation with OH Radicals Rate constant: 1.28E-11 cm³/s Atmospheric half-life: 10h Method: estimated</p> <p>Biological oxygen demand (BOD) BOD 5: 69% BOD 10: 70% BOD 20: 86%</p> <p>Chemical Oxygen Demand: 1.53 mg/mg Theoretical Oxygen Demand: 1.68 mg/mg</p>
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12.3 Bioaccumulative potential:	<p>Bio-concentration potential is low (BSF <100 or Log Pow <3) Partition coefficient, n-octanol/water (log Pow): -1.07 EU Method A.8 (Partition Coefficient) Bio-concentration Factor (BCF): 0.09 estimated</p>
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12.4 Mobility in soil:	<p>Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Potential for mobility in soil is very high (Koc between 0 and 50). Partition coefficient, soil organic carbon/water (Koc) <1 estimated. Henry's Law Constant (H): 1.2E-08 atm*m³/mole Measured</p>
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12.5 Results of PBT and vPvB assessment	Not available
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12.6 Other adverse effects	Not available
12.7 Additional information	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Dispose in accordance with applicable local and national regulations. Avoid disposing into drainage systems and into the environment.
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SECTION 14: TRANSPORT INFORMATION

14.1 UN number:	Not applicable
14.2 UN proper shipping name:	Not regulated for transport of Dangerous Goods
14.3 Transport hazard class(es):	Not applicable
14.4 Packing group:	Not applicable
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	Not applicable
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture:	Not available
15.2 Chemical Safety Assessment:	Not available

SECTION 16: OTHER INFORMATION

16.1 Indication of changes:	New issue
16.2 Key Literature references and sources for data:	Supplier raw material safety data sheet
16.3 Legal Disclaimer:	Technical information contained herein, including recommendation(s) for use is, to the best of our knowledge, true and accurate at the time of preparation. This document shall be used only as a guide. A new safety data sheet shall be prepared upon introduction of new ingredients or when there are changes to regulations. Bevie Craft will not accept responsibility for changes to this document by another person or organisation.

End of SDS