



24 Madison Road, Fairfield, New Jersey 07004, USA
 Tel: 800-771-JEEN (5336), Tel: 973-439-1401, Fax: 973-439-1402,
 email: info@jeen.com , Website: www.jeen.com

Material Safety Data Sheet

This Material Safety Data Sheet (MSDS) has been prepared in compliance with the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200. This product may be considered to be a hazardous chemical under that standard. (Refer to the OSHA Classification in Section I.) This information is required to be disclosed for safety in the workplace. The exposure to the community, if any, is quite different.

Section 1 - Product Identification

Issued by:	JEEN International Corporation 24 MADISON ROAD FAIRFIELD, NJ 07004 Telephone #: 973-439-1401	Chemtrec Emergency Tel.# 800-424-9300 Chemtrec Int'l Tel.# 703-527-3887(Collect Calls Accepted)
Product Name:	JEEPLEX C-12	
Synonyms:	PG; Methylethylene glycol; 1,2-dihydroxypropane; 1,2-propanediol; methyl glycol Vitamin C; L-Ascorbic Acid Butylene Glycol; 1,3-Butanediol; Butylene Glycol Benzophenone 4; 2 Hydroxy-4-Methoxybenzophenone-5-Sulfonic Acid	
Chemical Family:	Glycol Vitamin C Glycol Benzophenone	Formula:C ₃ H ₈ O ₂ Formula:C ₆ H ₈ O ₆ Formula:C ₄ H ₁₀ O ₂ Formula:C ₁₄ H ₁₂ O ₆ S
Use Description:	Solvent, carrier, intermediate, antifreeze solutions, humectant, vitamin.	
OSHA Hazard Classification:	Not considered hazardous per 29 CFR 1910.1200.	

Section 2 - Component Data

Product Composition:	CAS Or Chemical Name:	1,2-Propanediol
	CAS Number:	57-55-6
	CAS or Chemical Name:	L-Ascorbic Acid
	CAS Number:	50-81-7
	CAS or Chemical Name:	Butylene Glycol
	CAS Number:	107-88-0
	CAS or Chemical Name:	Benzophenone 4
	CAS Number:	4065-45-6
	Percentage Range:	98-100%
	Hazardous Per 29 CFR 1910.1200:	No
	Exposure Standards:	None established

Section 3 - Precautions for Safe Handling and Storage

Do not take internally, avoid eye contact.	Upon contact with eyes, wash off with water.
Storage Conditions:	Store in a cool, dry, well ventilated place. Do not store at temperatures above: 49 Deg.C (120 Deg.F)
<u>Product Stability and Compatibility:</u>	
Shelf Life Limitations:	6 months in drums or 12 months in bulk.
Incompatible Materials for Packaging:	Storage in unlined mild steel may cause discoloration and alter flavor.
Incompatible Material for Storage or Transport:	Do not store or ship with strong oxidizers as a spill may result in fire.

Section 4 - Physical Data

Appearance:	Clear, colorless liquid	Solubility in Water:	Complete
Freezing Point:	-60 Deg. C (-76 Deg.F)	Volatile, Percent by Volume:	No data
Boiling Point:	187.4 Deg. C (369 Deg. F)	Evaporation Rate:	No data
Decomposition Temperature:	No data	Vapor Density:	2.62
Specific Gravity:	1.04	Odor:	Slight
Bulk Density:	8.64 Lbs./gal	Coefficient of Oil/Water Distribution:	No data
pH @ 25 Deg. C:	Not applicable	Vapor Pressure @ 25 Deg. C:	< 0.1mm Hg
Molecular Weight:	76.1(PG)		176.13 (Vit.C)



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Section 5 - Personal Protective Equipment Requirements

Personal Protection for Routine Use of Product:

Respiratory Protection: Respiratory protection not normally required.
 Ventilation: Use general exhaust ventilation.
 Skin and Eye Protective Equipment: Impermeable gloves and chemical goggles.

Equipment Specifications (When applicable):

Respirator Type: Not normally required

Protective Clothing Type: This includes: gloves, boots, apron, protective suit): Impermeable

Section 6 - Fire and Explosion Hazard Information

Flammability Data:

Flammable: No
 Combustible: No
 Pyrophoric: No
 Flash point: 107 Deg. C (225 Deg. F) Test Method: Cleveland Open Cup
 Autoignition Temperature: 415 Deg. C (779 Deg. F)
 Flammable Limits at Normal Atmospheric Temperature and Pressure (% Volume in Air): LEL - 2.6% UEL - 12.5%

NFPA Ratings:

Health: 0
 Flammability: 1
 Reactivity: 0

HMS Ratings:

Health: 0
 Flammability: 1
 Reactivity: 0

Extinguishing Media:

Alcohol foam, carbon dioxide, dry chemical, water spray

Fire Fighting Techniques and Comments:

Use water to cool containers exposed to fire. See Section 11 for protective equipment for fire fighting.

Section 7 - Reactivity Information

Conditions under which this product may be unstable:

Temperatures above: 218 Deg. C (425 Deg. F)
 Mechanical shock or impact: No
 Electrical (Static) Discharge: No
 Hazardous Polymerization: Will not occur
 Incompatible Material: Strong oxidizers
 Hazardous Decomposition Products: Carbon dioxide; carbon monoxide

Summary of Reactivity:

Oxidizer: No
 Pyrophoric: No
 Organic Peroxide: No
 Water Reactive: No

Section 8 - First Aid

Eyes: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper lower eyelids. If eye irritation develops, call a physician.

Ingestion: Immediately drink water to dilute. Consult a physician if symptoms develop.

Inhalation: This product is not toxic by inhalation. Remove individual to fresh air.



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Section 9 - Toxicology and Health Information

Routes of Absorption: Ingestion

Warning Statements and Warning Properties:

Do not take internally, prolonged contact with the eyes may cause irritation. Prolonged or repeated skin contact may cause irritation.

Human Threshold Response Data:

Odor Threshold:	No data
Irritation Threshold:	No data
Immediately Dangerous to Life or Health:	The IDLH concentration has not been established for this product.

Signs, Symptoms and Effects of Exposure:

Inhalation

Acute: No significant adverse effects to health would be expected to occur from inhalation with normal use of this product due to its low volatility and vapor pressure.

Chronic: There are no known or reported effects from chronic exposure.

Skin

Acute: Contact with the skin is not expected to produce appreciable irritation. Skin contact may cause transient redness if not washed off and left on the skin for an extended period of time. This irritant effect would not be expected to result in permanent damage.

Chronic: There are no known or reported effects from chronic exposure except for effects similar to those experienced from single exposure.

Eye

Propylene glycol has not caused any eye injury in humans or laboratory animals. However, contact with the eyes may cause transient eye redness, stinging, twitching and tearing if not washed out and left in the eye for an extended period of time. No corneal involvement or visual impairment would be expected.

Ingestion

Acute: Ingestion may cause gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy or diarrhea.

Chronic: There are no known or reported effects from chronic exposure except for effects similar to those experienced for single exposure.

Medical Conditions Aggravated by Exposure

There are no medical conditions known to be aggravated by exposure.

Interactions with Other Chemicals which Enhance Toxicity

There are no chemicals known to enhance the toxicity of the product.

Animal Toxicology

Acute Toxicity:

Inhalation LC 50:	No data
Dermal LD 50:	> 2 g/kg (rabbit)
Oral LD 50:	> 5 g/kg (rat)
Irritation:	May cause mild skin and eye irritation from prolonged acute exposure.

Acute Target Organ Toxicity

No organs known to be damaged from exposure to this product. May cause mild eye and skin irritation from prolonged acute exposure.

Chronic Target Organ Toxicity

There are no known or reported effects from repeated exposure.



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Section 9 - Toxicity and Health Information continued....

Reproductive and Developmental Toxicity

There are no known or reported effects on reproductive function or fetal development from exposure to this product.

Continuous breeding reproduction studies were conducted using mice and rats. The animals were fed propylene glycol in their feed or water. No adverse effects on reproduction were found in either species. Propylene glycol has been tested and was found to be non-teratogenic in mice, and it does not affect maternal or embryo-toxicity in mice, rats, hamsters, or rabbits.

Carcinogenicity

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

Propylene glycol has been tested for carcinogenicity in rats and mice. It was found to be non-carcinogenic in both a feeding study using rats and in a skin application study using mice.

Mutagenicity

This product is not known or reported to be mutagenic.

Propylene glycol has been tested in a battery of in vitro and in vivo mutagenicity and genotoxicity assays. The weight of evidence from these assays suggests that propylene glycol is not mutagenic.

Aquatic Toxicity

Goldfish (<i>Carassius auratus</i>), 24 hr LC 50:	> 5000 mg/1 (measured, static)
Rainbow trout (<i>Salmo gairdneri</i>), 24 hr Acute lethality/mortality (non-LC50 testing):	> 50,000 mg/1 (nominal, static)
Brine shrimp, 24 hr. LC50:	> 10,000 mg/1 (nominal, static)
Daphnia magna, 48 hr EC50:	> 10,000 mg/1 (nominal, static)

Section 10 - Transportation Information

This material is not regulated as a DOT hazardous material.

Section 11 - Spill and Leakage Procedures

For all Transportation Accidents, call 973-812-9087.

Reportable Quantity: Not applicable

Spill Mitigation Procedures:

Evacuate all non-essential personnel. Hazardous concentrations in air may be found in local spill area and immediately downwind. Utilize emergency response personal protective equipment prior to the start of any response. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.

Air Release:

Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

Water Release:

This material is heavier than and soluble in water. Notify all downstream water users of possible contamination. Divert water flow around spill if possible and safe to do so. If unable to divert, create an overflow dam to contain material. Remove with a vacuum systems or pumping device for treatment and/or disposal. Continue to handle as described in land spill.

Land Spill:

Create a dike or trench to contain materials. Spill materials may be absorbed using sand or vermiculite. Do not place spill materials back in their original container. Containerize and label all spill materials properly. Decontaminate all clothing and the spill area using strong detergent and flush with large amounts of water.

Spill Residues: Dispose of per guidelines under Section 12, Waste Disposal.



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Section 12 - Waste Disposal

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a non-hazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations by incineration. CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Section 13 - Additional Regulatory Status Information

Toxic Substances Control Act:

This substance is listed on the Toxic Substances Control Act inventory.

Superfund Amendments and Reauthorization Act Title III:

Hazard Categories, per 40 CFR 370.2:

Health: None

Physical: None

Emergency Planning and Community Right To Know, per 40 CFR 355, APP>A:

Extremely Hazardous Substance - Threshold Planning Quantity: None Established

Supplier Notification Requirements, per 40 CFR 372.45: None Established

Section 14 - Additional Information

MSDS Revision Status: Toxicology information (Section 9) and personal protective equipment (Section 5) revised.
Revisions also made to Sections 1, 2, 4, 6 and 15.

Section 15 - Major References

- 1.) Ishidate, M., et al., Primary Mutagenicity Screening of Food Additives Currently Used in Japan, Food and Chemical Toxicology, Vol. 22, No. 8, pp. 623-636, 1984.
- 2.) Hayashi, M., et al., Micronucleus Test in Mice on 39 Food Additives and Eight Miscellaneous Chemicals, Food and Chemical Toxicology, Vol. 26, No. 6, pp. 487-500, 1988.
- 3.) Bridie, A.L., et al., The Acute Toxicity of Some Petrochemicals to Goldfish, Water Research, Vol. 13, pp. 623-626, 1979.
- 4.) Haworth, S., et al., Salmonella Mutagenicity Test Results for 250 Chemicals, Environmental Mutagenesis Supplement No. 1, pp. 3 -142, 1983.
- 5.) Majewski, H.S., et al., Acute Lethality and Sub-Lethal Effects of Acetone, Ethanol, and Propylene Glycol on the Cardiovascular and Respiratory Systems of Rainbow Trout (*Salmo gairdneri*), Water Research, Vol. 13, pp. 217-221, 1978.
- 6.) Kuhn, Renate, et al., Results of the Harmful Effects of Selected Water Pollutants (Anilines, Phenols, Aliphatic Compounds) to *Daphnia magna*. Water Research, vol. 23, No. 4, pp. 495-499, 1989.
- 7.) Acquire Database (aquatic toxicity), chemical Information Systems, Inc. (a division of PSI International, Inc.) Towson, Md.
- 8.) Effects of Toxic Chemicals on the Reproductive System. American Medical Association, Chicago, Ill., 1985.
- 9.) Final Report on the Safety Assessment of Propylene Glycol and Polypropylene Glycols. Journal of The American College of Toxicology, vol. 13, No. 6, pp. 437-491, 1994. Additional references are available upon request.

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of Plant Engineering, Operations and Management and for persons working with or handling this product. JEEN International believes this information to be reliable and up to date as of the date (4/22/96) of publication, but makes not warranty that it is.