

MSDS Preparation Date (dd/mm/yyyy): 16/12/2008

MATERIAL SAFETY DATA SHEET**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

Product identifier : **DeconGel™ 1101, 1120, 1121**

Product Code(s) : None reported.

Product Use : Decontamination

Chemical Family : Mixture

Supplier's name and address:
Cellular Bioengineering, Inc.
 1946 Young Street
 Suite 480
 Honolulu, HI, USA
 96826

Manufacturer's name and address:
 Refer to Supplier

Information Telephone No. : (808) 949-2208

24 Hr. Emergency Tel # :: **DOMESTIC NORTH AMERICA 800-424-9300**
INTERNATIONAL, CALL 703-527-3887 (collect calls accepted)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
			<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Ethanol	64-17-5	3.00 - 7.00	1000 ppm	N/Av	1000 ppm	N/Av
Sodium hydroxide	1310-73-2	0.10 - 1.00	N/Av	N/Av	2 mg/m ³	N/Av

SECTION 3 - HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Blue liquid. Mild odour.

Caution! Combustible liquid and vapour. Causes eye irritation. May cause skin and respiratory irritation. May cause central nervous system depression. Contains material which may cause mutations to reproductive cells, based on animal data.

*****POTENTIAL HEALTH EFFECTS*****

Target organs : Eyes, skin, respiratory system and digestive system.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Skin : May cause mild to moderate skin irritation.

Eyes : May cause moderate eye irritation.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

Conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Carcinogenic status

: See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards

: Possible mutagen See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION (Section 12).

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. When symptoms persist or in all cases of doubt seek medical advice.

Skin contact : For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If irritation persists, seek prompt medical attention. Launder clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed.

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- Eye contact** : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.
- Ingestion** : Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Seek immediate medical attention/advice.
- Notes For Physician** : Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

- : Combustible liquid and vapour. Product may ignite when exposed to heat, sparks and direct flame. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel considerable distance and flashback to a source of ignition. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Product may float, and be re-ignited at the water's surface.

Flammability classification (OSHA 29 CFR 1910.1200)

- : OSHA Combustible Liquid IIIA.

Flash point : DG: 1101 = 61.1°C / 142.0°F, 1120 = 63.3°C / 145.9°F, 1121 = 64.4°C / 147.9°F,

Flash point Method : closed cup **Auto-ignition temperature** : N/Av

Lower flammable limit (% by vol.) : N/Av **Upper flammable limit (% by vol.)** : N/Av

Oxidizing properties : None known.

Flame Projection Length : N/Av **Flashback observed** : N/Av

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

Hazardous combustion products

- : Carbon oxides; nitrogen oxides (NOx) ; irritating fumes and smoke.

NFPA Rating : 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
 : *Health: 2 Flammability: 2 Instability: 0 Special Hazards: None*

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.
- Spill response/cleanup** : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Do not flush into surface water or sanitary sewer system. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.
- Prohibited materials** : None known.
- Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).
 US CERCLA Reportable quantity (RQ): sodium hydroxide (1000 lbs / 454 kg).

SECTION 7 - HANDLING AND STORAGE

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- Safe Handling procedures** : Combustible liquid and vapour. Wear protective equipment during handling. Use in a well ventilated area. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep away from heat and sources of ignition. Use caution when opening cap. Use only non-sparking tools with this material. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
- Storage requirements** : Store in a cool, dry, well ventilated area. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.
- Incompatible materials** : Strong oxidizing agents; Strong acids; Reactive metals.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

- : Use only in well-ventilated areas. Provide sufficient ventilation to keep vapour concentration below the given TLV and/or PEL.

Respiratory protection

- : No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment. NIOSH-approved respirators are recommended. Seek advice from respiratory protection specialists.

Skin protection

- : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

Eye / face protection

- : Chemical splash goggles must be worn when handling this material.

Other protective equipment

- : Wear resistant clothing and boots. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

- : Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

- Permissible exposure levels** : For individual ingredient exposure levels, see Section 2.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid	Appearance	: Blue liquid.
Odour	: Mild odour.	Odour threshold	: N/Av
pH	: 4.0 - 7.5		
Boiling point	: 100°C / 212°F	Specific gravity	: 1.01
Melting/Freezing point	: N/Av	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: N/Av	Solubility in water	: Soluble
Vapour density (Air = 1)	: >1	Evaporation rate (n-Butyl acetate = 1)	: N/Av
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

- Stability and reactivity** : Stable under the recommended storage and handling conditions prescribed.
- Hazardous polymerization** : Will not occur.
- Conditions to avoid** : Keep this product away from heat, sparks, flame, and other sources of ignition (e.g. pilot lights, electric motors, static electricity).
- Materials To Avoid And Incompatibility** : Incompatible materials (see Section 7).
- Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

- Toxicological data** : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

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<u>Ingredients</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>oral</u>	<u>dermal</u>
Ethanol	N/Av	7060 mg/kg	N/Av
Sodium hydroxide	N/Av	N/Av	N/Av

- Carcinogenic status** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive effects** : Not expected to have other reproductive effects.
- Teratogenicity** : Not expected to be a teratogen.
- Mutagenicity** : Contains ethanol. Ethanol may cause mutations to both reproductive (germ) cells and non-reproductive (somatic) cells, based on animal data.
- Epidemiology** : Not available.
- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Synergistic materials** : Not available.
- Irritancy** : Irritating to eyes, respiratory system and skin. May cause gastrointestinal irritation.
- other important hazards** : None known.




SECTION 12 - ECOLOGICAL INFORMATION

- Environmental effects** : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
- Important environmental characteristics** : No information available.
- Ecotoxicological** : No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
49CFR/DOT	None	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	This material may be regulated as a combustible liquid when shipped in packages with a capacity larger than 119 gallons (450 liters).				
TDG	none	Not regulated.	Not regulated	none	
TDG Additional information	None.				
ICAO/IATA	None	Not regulated.	Not regulated	none	
ICAO/IATA Additional information	None.				

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): See Section 6 .

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm. Note that this product does contain ethyl alcohol, which is known to the State of California to cause developmental harm; however, this is only applicable when the chemical is present in alcoholic beverages.

International Information:

Canadian WHMIS Classification:

- Class B3 (Combustible Liquids)
- Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material)
- Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16 - OTHER INFORMATION

HMIS Rating : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
*Health: *2 Flammability: 2 Reactivity: 0*


Legend : ACGIH: American Conference of Governmental Industrial Hygienists
 CA: California
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CFR: Code of Federal Regulations
 DOT: Department of Transportation
 EPA: Environmental Protection Agency
 HMIS: Hazardous Materials Identification System
 HSDB: Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 Inh: Inhalation
 N/Ap: not applicable
 N/Av: not available
 NFPA: National Fire Protection Association
 NIOSH: National Institute of Occupational Safety and Health
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments & Reauthorization Act
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values

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TPQ: Threshold Planning Quantity
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2006.
- 2. International Agency for Research on Cancer Monographs, searched 2007.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2008 (Chempendium, HSDB, RTECs).
- 4. Material Safety Data Sheet from manufacturer.
- 5. US EPA Title III List of Lists - January 27, 2005 version.
- 6. California Proposition 65 List - September 28, 2007 version.

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<p><u>Prepared by:</u> ICC The Compliance Center Inc. & Dr. G.J. Edgington Canada: 1-888-977-4834 USA: 1-888-442-9628 http://www.thecompliancecenter.com</p>	

DISCLAIMER OF LIABILITY

The information provided in this Safety Data Sheet 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 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 materials or in any process, unless specified in the text.

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