SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: Benzyl Alcohol

Product Code(s)

: None assigned.

Recommended use of the chemical and restrictions on use

: Alcohol; Solvent
  Use pattern: Professional use only
  Recommended restrictions: None known.

Chemical family

: Pure substance

Name, address, and telephone number of the supplier:

Comet Chemical Company Ltd.
3463 Thomas Street
Innisfill, ON, Canada
L9S 3W4

Supplier's Telephone # : 705-436-5580

24 Hr. Emergency Tel #: TERRRAPURE ENVIRONMENTAL : 800-567-7455

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear, colorless liquid. Sweet, floral (rose-like) odor.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable Liquid - Category 4
Acute toxicity, oral - Category 4
Serious eye damage/eye irritation - Category 2A -
Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

Label elements

Hazard pictogram(s)

Signal Word

WARNING!

Hazard statement(s)

Combustible liquid.
Harmful if swallowed.
Causes serious eye irritation.
May cause drowsiness or dizziness.
SAFETY DATA SHEET

Precautionary statement(s)

Keep away from flames and hot surfaces. - No smoking.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing mist or vapor.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use water fog, dry chemical, CO2 or ‘alcohol’ foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Keep cool.

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

Other hazards

Other hazards which do not result in classification: Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Direct skin contact may cause slight or mild, transient irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS #</th>
<th>Concentration (% by weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>Benzoyl alcohol Phenylcarbinol alpha-Hydroxytoluene</td>
<td>100-51-6</td>
<td>100.00</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

**Ingestion**
Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

**Inhalation**
If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTRE or doctor/physician if you feel unwell.

**Skin contact**
Immediately flush with plenty of water, while removing contaminated clothing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

**Eye contact**
For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.
SAFETY DATA SHEET

Most important symptoms and effects, both acute and delayed

: Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause respiratory irritation. Direct skin contact may cause slight or mild, transient irritation.

Indication of any immediate medical attention and special treatment needed

: Could result in poisoning, with symptoms of cyanosis, shortness of breath, nausea, dizziness, vomiting, collapse, coma, convulsions and death. Symptoms may be delayed.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Carbon dioxide (CO2); Dry chemical; Alcohol resistant foam; Water fog.

Unsuitable extinguishing media

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

Special hazards arising from the substance or mixture / Conditions of flammability

: Vapours are heavier than air and may spread along floors.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Do not breathe fumes or vapours. Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Avoid breathing mist or vapours. 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). Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: In case of transportation accident, contact TERRAPURE ENVIRONMENTAL at 1-800-567-7455. EPA/CERCLA Reportable quantity (RQ): None.
SAFETY DATA SHEET

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Wear protective gloves and eye/face protection. Use only in well-ventilated areas. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep away from flames and hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharges. Ground all equipment during handling.

Conditions for safe storage

Keep container tightly closed. Store in cool/well-ventilated place. Store locked up. Keep cool. 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. Empty containers may contain hazardous residues.

Incompatible materials

Strong oxidizers (e.g. Chlorine, Peroxides, etc.). Reducing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>10 ppm (AIHA WEEL)</td>
<td>N/Av</td>
</tr>
</tbody>
</table>

Exposure controls

Ventilation and engineering measures

Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant overalls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection

Wear eye/face protection. Wear chemical goggles.

Other protective equipment

Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Clear colourless liquid.

Odour

Sweet, floral (rose-like) odor.

Odour threshold

5.5 ppm

pH

Not available.
SAFETY DATA SHEET

Melting/Freezing point
: -15.2°C

Initial boiling point and boiling range
: 206°C

Flash point
: 93°C

Flashpoint (Method)
: Cleveland closed cup

Evaporation rate (BuAe = 1)
: Not available.

Flammability (solid, gas)
: Not applicable.

Lower flammable limit (% by vol.)
: 1.3%

Upper flammable limit (% by vol.)
: 13%

Oxidizing properties
: None known.

Explosive properties
: Not explosive.

Vapour pressure
: Not available.

Vapour density
: 3.72

Relative density / Specific gravity
: 1.04

Solubility in water
: Soluble

Other solubility(ies)
: Not available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: 1.1

Auto-ignition temperature
: 436°C

Decomposition temperature
: No information available.

Viscosity
: 1.013 mm²/s

Volatile (%) by weight
: No information available.

Absolute pressure of container
: Not applicable.

Flame projection length
: Not applicable.

Other physical/chemical comments
: Molecular formula: C7-H8-O

SECTION 10. STABILITY AND REACTIVITY

Reactivity
: Not normally reactive.

Chemical stability
: Stable under normal conditions.

Possibility of hazardous reactions
: Hazardous polymerization does not occur.

Conditions to avoid
: Open flames, sparks, high heat, direct sunlight, and close proximity to incompatible substances. Do not use in areas without adequate ventilation.

Incompatible materials
: See Section 7 (Handling and Storage) for further details.

Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation
: YES

Routes of entry skin & eye
: YES
SAFETY DATA SHEET

Routes of entry
Ingestion : YES

Routes of exposure
Skin absorption : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation
May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Sign and symptoms ingestion
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin
Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes
Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Potential Chronic Health Effects

Mutagenicity
Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

Carcinogenicity
Not expected to be mutagenic in humans.

Reproductive effects & Teratogenicity
Not expected to cause reproductive effects.

Sensitization to material
Not expected to be a skin or respiratory sensitizer.

Specific target organ effects
This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects. Not classified as specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure
Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials
No information available.

Toxicological data
See below for toxicological data on the substance.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LC50(4hr) inh, rat</th>
<th>LD50 (Oral, rat)</th>
<th>LD50 (Rabbit, dermal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>&gt; 4.178 mg/L (mist) (No mortality)</td>
<td>1230 mg/kg</td>
<td>2000 mg/kg</td>
</tr>
</tbody>
</table>

Other important toxicological hazards
None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Not expected to be harmful to aquatic organisms. Do not allow material to contaminate ground water system. See the following tables for the substance’s ecotoxicity data.
SAFETY DATA SHEET

Ecotoxicity data:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Fish</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>LC50 / 96h: 460 mg/L (Fathead minnow)</td>
<td>NOEC / 21 day: N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Daphnia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>EC50 / 48h: 360 mg/L (Daphnia magna)</td>
<td>NOEC / 21 day: 51 mg/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Algae</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>EC50 / 96h or 72h: 500 mg/L/72hr (Green algae)</td>
<td>NOEC / 96h or 72h: 310 mg/L/72hr (Green algae)</td>
</tr>
</tbody>
</table>

Persistence and degradability:
- Readily biodegradable

Bioaccumulation potential:
- No information available.

<table>
<thead>
<tr>
<th>Components</th>
<th>Partition coefficient n-octanol/water (log Kow)</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol (CAS 100-51-6)</td>
<td>1.1</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Mobility in soil:
- The product itself has not been tested.

Other Adverse Environmental effects:
- None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal:
- Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal:
- Dispose in accordance with all applicable federal, state, provincial and local regulations.

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

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN Number</th>
<th>UN proper shipping name</th>
<th>Transport hazard class(es)</th>
<th>Packing Group</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>49CFR/DOT</td>
<td>NA1993</td>
<td>Combustible liquid, n.o.s. (Benzyl alcohol)</td>
<td>Combustible.</td>
<td>III</td>
<td><img src="image" alt="Combustible" /></td>
</tr>
<tr>
<td>Additional information</td>
<td>Not regulated for road or rail shipment if packaged in non-bulk containers (450 Litres or less each).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td>None.</td>
<td>Not regulated.</td>
<td>not regulated</td>
<td>none</td>
<td><img src="image" alt="Not regulated" /></td>
</tr>
<tr>
<td>TDG Additional information</td>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMDG</td>
<td>None.</td>
<td>Not regulated.</td>
<td>not regulated</td>
<td>none</td>
<td><img src="image" alt="Not regulated" /></td>
</tr>
<tr>
<td>IMDG Additional information</td>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICAO/IATA</td>
<td>None.</td>
<td>Not regulated.</td>
<td>not regulated</td>
<td>none</td>
<td><img src="image" alt="Not regulated" /></td>
</tr>
<tr>
<td>ICAO/IATA Additional information</td>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special precautions for user**: Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame. - No smoking.

**Environmental hazards**: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**
Components listed below are present on the following U.S. Federal chemical lists:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>TSCA Inventory</th>
<th>CERCLA Reportable Quantity(RQ) (40 CFR 117.302):</th>
<th>SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:</th>
<th>SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical</th>
<th>Toxic Chemical</th>
<th>de minimus Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) 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 or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.
SAFETY DATA SHEET

US State Right to Know Laws:
The following chemicals are specifically listed by individual States:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>California Proposition 65</th>
<th>State “Right to Know” Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Listed</td>
<td>Type of Toxicity</td>
<td>CA</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>No</td>
<td>N/Ap</td>
<td>No</td>
</tr>
</tbody>
</table>

Canadian Information:
Canadian Environmental Protection Act (CEPA): All ingredients are present on the DSL.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:
Components listed below are present on the following International Inventory list:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>European EINECs</th>
<th>Australia AICS</th>
<th>Philippines PICCS</th>
<th>Japan ENCS</th>
<th>Korea KECI/KECL</th>
<th>China IECSC</th>
<th>NewZealand IOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>202-859-9</td>
<td>Present</td>
<td>Present</td>
<td>(3)-1011</td>
<td>KE-02570</td>
<td>Present</td>
<td>HSR001039</td>
</tr>
</tbody>
</table>

SECTION 16. OTHER INFORMATION

Legend:
ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
SAFETY DATA SHEET

N/A: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References:
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016(Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2016 version.

Preparation Date (mm/dd/yyyy): 10/21/2016

Other special considerations for handling:
Provide adequate information, instruction and training for operators.

Prepared by:
ICC The Compliance Center Inc.
Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada)
http://www.thecompliancecenter.com

DISCLAIMER

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END OF DOCUMENT