MATERIAL SAFETY DATA SHEET

LANXESS Corporation
Product Safety & Regulatory Affairs
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USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC:	(800) 424-9300
INTERNATIONAL:	(703) 527-3887

NON-TRANSPORTATION

LANXESS Emergency Phone:	(800) 410-3063
LANXESS Information Phone:	(800) LANXESS

1. Product and Company Identification

Product Name:	BENZYL ALCOHOL
Material Number:	988700
Chemical Family:	Aromatic Alcohol, Aromatic alcohol
Chemical Name:	Benzyl alcohol
CAS-No.:	100-51-6
Formula:	C7H8O

2. Hazards Identification

Emergency Overview

WARNING! Color: Colorless **Form:** liquid **Odor:** Slight, Aromatic.
May be harmful if inhaled. May cause respiratory tract irritation. Inhalation may cause nausea or dizziness. May be harmful if absorbed through skin. May cause allergic skin reaction. May cause eye irritation. May be harmful if swallowed.

Potential Health Effects

Primary Routes of Entry:	Skin Contact, Eye Contact, Ingestion, Inhalation
Medical Conditions Aggravated by Exposure:	Skin disorders, Respiratory disorders, Eye disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Acute Inhalation
For Component: Benzyl alcohol
May be harmful by inhalation. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion. Inhalation of the solvents may cause central nervous system depression with symptoms of nausea, lightheadedness, drowsiness, dizziness and loss of co-ordination.

Chronic Inhalation
For Component: Benzyl alcohol
May cause lung damage.

Acute Skin
For Component: Benzyl alcohol
If sufficient amounts are absorbed, systemic toxicity may occur with symptoms similar to those described in acute inhalation. Not expected to be irritating.

Chronic Skin
For Component: Benzyl alcohol
Repeated and prolonged contact may cause an allergic skin reaction in sensitive individuals. Prolonged or repeated skin contact may cause dermatitis with symptoms of red, itchy, dry skin.

Acute Eye
For Component: Benzyl alcohol
May cause irritation with symptoms of reddening, tearing and stinging.

Chronic Eye
For Component: Benzyl alcohol
Prolonged vapor contact may cause conjuntivitis.

Acute Ingestion
For Component: Benzyl alcohol
Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. May be harmful if swallowed. May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

Chronic Ingestion
For Component: Benzyl alcohol
May cause blood disorders. May cause kidney damage. May cause liver damage. May cause lung damage.

Chronic Effects of Exposure
For Component: Benzyl alcohol
Repeated or prolonged overexposure may cause effects as noted under acute health effects.

Carcinogenicity:
No Carcinogenic substances as defined by IARC, NTP and/or OSHA

3. Composition/Information on Ingredients

Hazardous Components

Weight %	Components	CAS-No.
>=95%	Benzyl alcohol	100-51-6

4. First Aid Measures

Eye Contact
In case of contact, flush eyes with plenty of water for at least 15 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Call a physician immediately.

Skin Contact
In case of skin contact, wash affected areas with soap and water.

Inhalation
If inhaled, remove to fresh air. Get medical attention if irritation develops.

Ingestion
If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: carbon dioxide (CO2), dry chemical, foam, water spray for large fires.

Special Fire Fighting Procedures
Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Unusual Fire/Explosion Hazards
Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental release measures

Spill and Leak Procedures
Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal.

7. Handling and Storage

Storage Temperature:

minimum:	-12.22 °C (10 °F)
maximum:	50 °C (122 °F)

Storage Period
12 Months: When stored in original sealed container.

Handling/Storage Precautions
Avoid breathing dust, vapor, or mist. Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use.

8. Exposure Controls / Personal Protection

Country specific exposure limits have not been established or are not applicable

Industrial Hygiene/Ventilation Measures
General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection
A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Hand Protection
gloves

Eye Protection
goggles.

Skin and body protection
Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures
Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and chemical properties

Form:	liquid
Color:	Colorless
Odor:	Slight, Aromatic
pH:	Not Established
Melting Point:	Approximately -15 °C (5 °F)
Boiling Point/Range:	Approximately 205 °C (401 °F) @ 1,013 mbar
Flash Point:	Approximately 101.11 °C (214 °F) (DIN 51758)
Lower Explosion Limit:	1.3 %(V)
Upper Explosion Limit:	13 %(V)
Vapor Pressure:	Approximately 0.07 mbar @ 20 °C (68 °F)
Density:	3.72 g/cm3
Specific Gravity:	Approximately 1.04
Solubility in Water:	Approximately 40 g/l @ 20 °C (68 °F) Approximately 44 g/l @ 55 °C (131 °F)
Autoignition Temperature:	Approximately 435 °C (815 °F)
Molecular Weight:	108.15

10. Stability and Reactivity

Hazardous Reactions
Hazardous polymerization does not occur.

Stability
Stable

Materials to avoid
Strong oxidizing agents, acids, Iron, zinc, aluminium

Conditions to avoid
Exposure to air. Exposure to light. Heat. Avoid acidic conditions.

Hazardous decomposition products
By Fire and Thermal Decomposition: Carbon oxides

11. Toxicological Information

Toxicity Data for Benzyl alcohol

Acute Oral Toxicity
LD50: 1,610 mg/kg (Rat)
LD50: 1,230 - 3,100 mg/kg (Rat)

Acute Inhalation Toxicity
LC50: > 4.178 mg/l, aerosol, 4 hrs (Rat)
LC50: 8.9 mg/l, 4 hrs (Rat)
LC50: 1000 ppm, 8 h (Rat)

Acute dermal toxicity
LD50: 2,000 mg/kg (rabbit)

Skin Irritation
rabbit, OECD Guideline for Testing of Chemicals, No. 404, Exposure Time: 4 hrs, Non-irritating

Eye Irritation
rabbit, OECD Guideline for Testing of Chemicals, No. 405, Moderately irritating

Sensitization
dermal: non-sensitizer (Guinea pig, Maximisation Test (GPMT))
dermal: sensitizer (Guinea pig, Maximisation Test (GPMT))
dermal: sensitizer (Human, Patch Test)
dermal: non-sensitizer (Human, Magnusson/Kligmann (Maximization Test))

Repeated Dose Toxicity
inhalation: NOAEL: 270 ppm, (Rat, Male)
13 weeks, oral: NOAEL: 400 mg/kg, (Rat, Male/Female, daily)
13 weeks, oral: NOAEL: 200 mg/kg, (mouse, Male/Female, daily)

Mutagenicity
Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Chromosome aberration test: positive (Chinese hamster ovary (CHO) cells, Metabolic Activation: without)
Positive and negative results were seen in various in vitro studies.
Genetic Toxicity in Vivo:
Micronucleus Assay: Negative results were reported in various in vivo studies. (mouse, Male, intraperitoneal)

Carcinogenicity
Rat, Male/Female, oral, 2 yrs, daily
No carcinogenic effects observed at the doses tested.
mouse, Male/Female, oral, 2 yrs,

Toxicity to Reproduction/Fertility
Fertility Screening, oral, (Rat, Female) NOAEL (parental): 5 mg/kg,
No effects on Reproductive parameters observed at doses tested.
Three generation study, oral, (Rat, Male/Female) NOAEL (parental): Approximately > 750 mg/kg, NOAEL (F1): Approximately > 750 mg/kg, NOAEL (F2): > 750 mg/kg,

Developmental Toxicity/Teratogenicity
Rat, Male/Female, oral, daily, NOAEL (teratogenicity): 750 mg/kg, NOAEL (maternal): 750 mg/kg, No fetotoxicity observed at doses tested. No Teratogenic effects observed at doses tested.

12. Ecological Information

Ecological Data for Benzyl alcohol
Biodegradation
92 - 96 %, Exposure time: 28 Days

Biological Oxygen Demand (BOD)
5 Days, 62 %
1,550 - 1,560 mg/g

Chemical Oxygen Demand (COD)
96 % of ThOD
2,520 mg/g

Theoretical Biological Oxygen Demand (ThBOD)
2,515 - 2,520 mg/g

Bioaccumulation
approximately 0.31 BCF

Acute and Prolonged Toxicity to Fish
LC50: 460 mg/l (Fathead minnow (Pimephales promelas), 96 hrs)
LC50: 10 ppm (Bluegill (Lepomis macrochirus), 96 hrs)
LC50: 10 - 32 ppm (Silverside Minnow (Menidia peninsulae), 96 hrs)

Acute Toxicity to Aquatic Invertebrates
EC50: 360 ppm (Water flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants
EC50: 640 mg/l, (other: algae, 96 hrs)
EC50: 95 mg/l, End Point: inhibition of photosynthesis (other: algae, 3 hrs)

Toxicity to Microorganisms
EC10: 658 mg/l, (Pseudomonas putida, 16 hrs)
EC50: 71.42 mg/l, (Photobacterium phosphoreum, 30 min)

13. Disposal considerations

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning.

14. Transportation information

Land transport (DOT)
Non-Regulated

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

15. Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components
None

SARA Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components
None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):
If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
>=95%	Benzyl alcohol	100-51-6

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

16. Other Information

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
* = Chronic Health Hazard

LANXESS Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS Corporation as a customer service.

Contact Person:	Product Safety Department
Telephone:	(800) LANXESS
MSDS Number:	R304627
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Report Version:	2.0

Changes since the last version will be highlighted in the margin. This version replaces all previous versions.