Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/05/2015 Reviewed on 11/29/2014

1 Identification

· **Product identifier**

· **Trade name: tert-Butyl alcohol**

· **Article number:** 214450
· **CAS Number:**
75-65-0
· **EC number:**
200-889-7
· **Index number:**
603-005-00-1
· **Application of the substance / the mixture** Laboratory chemicals for research and development

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
BeanTown Chemical
9 Sagamore Park Road
Hudson, NH 03051
USA

Phone: (603) 402-2234
Fax: (603) 402-9713
Email: technical@beantownchem.com
www.beantownchem.com

· **Information department:** Technical Support Department
· **Emergency telephone number:**
During normal operating hours, please call (603) 402-2234
After hours, please call Chemtrec at (800) 424-9300

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**
· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

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· **Hazard-determining components of labeling:**
tert-butyl alcohol
· **Hazard statements**
Highly flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
May cause respiratory irritation.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
75-65-0 tert-butyl alcohol
· **Identification number(s)**
· **EC number:** 200-889-7
· **Index number:** 603-005-00-1

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
75-65-0 tert-butyl alcohol	
PEL	Long-term value: 300 mg/m³, 100 ppm
REL	Short-term value: 450 mg/m³, 150 ppm Long-term value: 300 mg/m³, 100 ppm
TLV	Long-term value: 303 mg/m³, 100 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Color:	Colorless
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.

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· **Change in condition**	
Melting point/Melting range:	23-26 °C (73-79 °F)
Boiling point/Boiling range:	83 °C (181 °F)
· **Flash point:**	11 °C (52 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	470 °C (878 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Not determined.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	2.3 Vol %
Upper:	8 Vol %
· **Vapor pressure at 20 °C (68 °F):**	40 hPa (30 mm Hg)
· **Density at 20 °C (68 °F):**	0.775 g/cm³ (6.467 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic at 30 °C (86 °F):	3.35 mPas
Kinematic:	Not determined.
Organic solvents:	0.0 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
75-65-0 tert-butyl alcohol		
Oral	LD50	3500 mg/kg (rat)

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· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
Substance is not listed.

· **NTP (National Toxicology Program)**
Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
Substance is not listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Not known to be hazardous to water.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, IMDG, IATA**	UN1120
· **UN proper shipping name**	
· **DOT**	Butanols
· **IMDG, IATA**	BUTANOLS
· **Transport hazard class(es)**	
· **DOT, IMDG, IATA**	
· **Class**	3 Flammable liquids

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· **Packing group**	
· **DOT, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	UN1120, Butanols, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is listed.

· **TSCA (Toxic Substances Control Act):**
Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

75-65-0	tert-butyl alcohol	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

· **RTECS**
Substance is not listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **NFPA ratings (scale 0-4)**
Health = 2
Fire = 3
Reactivity = 0
· **HMIS ratings (scale 0-4)**
Health = 2
Fire = 3
Reactivity = 0

· **Department issuing SDS:** Technical Support Department
· **Contact:** Technical Support Department
· **Date of preparation / last revision** 03/05/2015 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3