Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
ORION BENZOIN COMPOUND TINCTURE B.P.

PROPER SHIPPING NAME
ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

PRODUCT NUMBERS
1592642

PRODUCT USE
Used mainly as an inhalation in bronchitis and acute laryngitis. May be applied undiluted as an antiseptic and styptic to small cuts and to intact skin as a protective dressing under occlusive plasters and bandages.

SUPPLIER
Company: Orion Laboratories Pty Ltd
Address:
25 - 29 Delawney Street
Balcatta
WA, 6021
Australia
Telephone: +1 800 805 546
Emergency Tel: +61 8 9441 7800
Fax: +1 800 004 110
Email: customerservice@orion.net.au
Website: http://www.orion.net.au/

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Toxicity</th>
<th>Body Contact</th>
<th>Reactivity</th>
<th>Chronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>High=3</td>
<td>Moderate=2</td>
<td>Low=1</td>
<td>Low=1</td>
<td>Min/Nil=0</td>
</tr>
</tbody>
</table>

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

RISK
■ Highly flammable.
■ Irritating to eyes.
■ May cause SENSITISATION by skin contact.
■ Vapours may cause drowsiness and dizziness.

SAFETY
• Keep away from sources of ignition. No smoking.
• Do not breathe gas/fumes/vapour/spray.
• Avoid contact with skin.
• Avoid contact with eyes.

continued...
Section 2 - HAZARDS IDENTIFICATION

- Inhalation and/or ingestion may produce health damage*.
- Cumulative effects may result following exposure*.
- May produce discomfort of the respiratory system and skin*.
- Limited evidence of a carcinogenic effect*.
- Possible respiratory sensitizer*.
- May possibly be harmful to the foetus/embryo*.

* (limited evidence).

- Wear suitable gloves.
- Wear eye/face protection.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- Avoid exposure - obtain special instructions before use.
- To clean the floor and all objects contaminated by this material, use water.
- Keep container tightly closed.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
- This material and its container must be disposed of as hazardous waste.
- In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS RN</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td>&gt;70</td>
</tr>
<tr>
<td>benzoin</td>
<td>119-53-9</td>
<td>10</td>
</tr>
<tr>
<td>prepared storax</td>
<td>9000-64-0</td>
<td>2.5</td>
</tr>
<tr>
<td>Tolu balsam</td>
<td>8001-97-6</td>
<td>2</td>
</tr>
<tr>
<td>aloe</td>
<td>7732-18-5</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

SWALLOWED
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

EYE
- If this product comes in contact with the eyes:
  - Wash out immediately with fresh running water.
  - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  - Seek medical attention without delay; if pain persists or recurs seek medical attention.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN
- If skin contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

INHALED
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.

continued...
Section 4 - FIRST AID MEASURES

- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to ethanol:
- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

FIRE FIGHTING
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water course.

FIRE/EXPLOSION HAZARD
- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat, flame and/or oxidisers.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
  Combustion products include: carbon dioxide (CO2), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY
- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM
- 2YE

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

MAJOR SPILLS
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.
Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Prevent concentration in hollows and sumps.
• DO NOT allow clothing wet with material to stay in contact with skin.

SUITABLE CONTAINER
• Packing as supplied by manufacturer.
• Plastic containers may only be used if approved for flammable liquid.
• Check that containers are clearly labelled and free from leaks.
• For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
• For materials with a viscosity of at least 2680 cSt. (23 deg. C)
• For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
• Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)
  (i) : Removable head packaging;
  (ii) : Cans with friction closures and
  (iii) : low pressure tubes and cartridges may be used.

STORAGE INCOMPATIBILITY
• Avoid reaction with oxidising agents.
• Segregate from strong oxidisers.

STORAGE REQUIREMENTS
• Store in original containers in approved flame-proof area.
• No smoking, naked lights, heat or ignition sources.
• DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
• Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

<table>
<thead>
<tr>
<th>Source</th>
<th>Material</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Peak ppm</th>
<th>Peak mg/m³</th>
<th>TWA FICC</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>ethanol (Ethyl alcohol)</td>
<td>1000</td>
<td>1880</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following materials had no OELs on our records

- Tolu balsam: CAS:9000- 64- 0
- aloe: CAS:8001- 97- 6 CAS:67479- 27- 0
- water: CAS:7732- 18- 5

MATERIAL DATA

ALOES:

- BENZOIN:
  It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.
  At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience).
  NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

ALOES:

- ETHANOL:
  Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne

continued...
Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

concentrations.

ORION BENZOIN COMPOUND TINCTURE B.P.:  
Not available

ETHANOL:  
For ethanol:  
Odour Threshold Value: 49-716 ppm (detection), 101 ppm (recognition)  
Eye and respiratory tract irritation do not appear to occur at exposure levels of less than 5000 ppm and the TLV-TWA is thought to provide an adequate margin of safety against such effects. Experiments in man show that inhalation of 1000 ppm caused slight symptoms of poisoning and 5000 ppm caused strong stupor and morbid sleepiness.

TOLU BALSAM:  
for styrene:  
Odour Threshold: 0.017 to 1.9 with a geometric average threshold of 0.32 ppm.  
NOTE: Detector tubes measuring styrene at greater than 10 ppm are available.  
For toluene:  
Odour Threshold Value: 0.16-6.7 (detection), 1.9-69 (recognition)  
NOTE: Detector tubes measuring in excess of 5 ppm, are available.  
High concentrations of toluene in the air produce depression of the central nervous system (CNS) in humans.  
Odour Threshold Value for phenol: 0.060 ppm (detection)  
NOTE: Detector tubes for phenol, measuring in excess of 1 ppm, are commercially available.  
Systemic absorption by all routes may induce convulsions with damage to the lungs and central nervous system.

WATER:  
No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION

RESPIRATOR  
• Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE  
• Safety glasses with side shields.  
• Chemical goggles.  
• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET  
• Wear chemical protective gloves, eg. PVC.  
• Wear safety footwear or safety gumboots, eg. Rubber.  
NOTE:  
• The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.  
• Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

OTHER  
• Overalls.  
• PVC Apron.  
• PVC protective suit may be required if exposure severe.  
• Eyewash unit.

ENGINEERING CONTROLS  
• Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

continued...
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**
Dark brown liquid with an alcoholic odour; mixes with water.

**PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not Available</td>
</tr>
<tr>
<td>Melting Range (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Range (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>21 (CC)</td>
</tr>
<tr>
<td>Decomposition Temp (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Autoignition Temp (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Volatile Component (%vol)</td>
<td>70</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**CONDITIONS CONTRIBUTING TO INSTABILITY**

- Segregate from strong oxidisers.
- For incompatible materials - refer to Section 7 - Handling and Storage.

### Section 10 - STABILITY AND REACTIVITY

**ACUTE HEALTH EFFECTS**

#### SWALLOWED

- Accidental ingestion of the material may be damaging to the health of the individual.
- Ingestion of ethanol (ethyl alcohol, "alcohol") may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. Effects on the body:

<table>
<thead>
<tr>
<th>Blood concentration</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1.5 g/L</td>
<td>Mild: impaired vision, co-ordination and reaction time; emotional instability</td>
</tr>
<tr>
<td>1.5-3.0 g/L</td>
<td>Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence. Slow breathing may occur rarely and fast breathing may develop in cases of metabolic acidosis, low blood sugar and low blood potassium. Central nervous system depression may progress to coma.</td>
</tr>
</tbody>
</table>
Section 11 - TOXICOLOGICAL INFORMATION

3- 5 g/L

Severe: cold clammy skin, low body temperature and low blood pressure. Atrial fibrillation and heart block have been reported. Depression of breathing may occur, respiratory failure may follow serious poisoning, choking on vomit may result in lung inflammation and swelling. Convulsions due to severe low blood sugar may also occur. Acute liver inflammation may develop.

Constant use of purgatives/laxatives may decrease the sensitivity of the intestinal mucosa causing a diminished response to normal stimuli. The redevelopment of a normal habit is thus prevented.

EYE

■ There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. There may be damage to the cornea. Unless treatment is prompt and adequate there may be permanent loss of vision. Conjunctivitis can occur following repeated exposure. Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.

SKIN

■ There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents. Large amounts of ethanol taken in pregnancy may result in "foetal alcohol syndrome", characterised by delay in mental and physical development, learning difficulties and small head size. A small number of people develop allergic reactions to ethanol, which include eye infections, skin swelling, shortness of breath, and itchy rashes with blisters. Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping. The material may accumulate in the human body and progressively cause tissue damage.

TOXICITY AND IRRITATION

■ Not available. Refer to individual constituents.

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

continued...
Section 12 - ECOLOGICAL INFORMATION

Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility
---|---|---|---|---
ethanol | LOW | MED | LOW | HIGH
benzoin | HIGH | No Data | LOW | HIGH
Tolu balsam | No Data | No Data | Available | Available
aloes | No Data | No Data | Available | Available

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible.
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID

HAZCHEM:
• 2YE (ADG7)

Land Transport UNDG:
Class or division: 3 Subsidiary risk: None
UN No.: 1170 UN packing group: II
Shipping Name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Air Transport IATA:
ICAO/IATA Class: 3 ICAO/IATA Subrisk: None
UNID Number: 1170 Packing Group: II
Special provisions: A3
Cargo Only
Packing Instructions: 364 Maximum Qty/Pack: 60 L
Passenger and Cargo Packing Instructions: 353 Maximum Qty/Pack: 5 L
Passenger and Cargo Limited Quantity Packing Instructions: Y341 Maximum Qty/Pack: 1 L
Shipping name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Maritime Transport IMDG:
IMDG Class: 3 IMDG Subrisk: None
UN Number: 1170 Packing Group: II
EMS Number: F-E-S-D Special provisions: 144
Limited Quantities: 1 L
Shipping name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

ethanol (CAS: 64-17-5) is found on the following regulatory lists;

benzoin (CAS: 119-53-9, 579-44-2, 5928-67-6) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals"

Tolu balsam (CAS: 9000-64-0) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)", "Australia Therapeutic Goods Administration (TGA) Substances that may be used as active ingredients in Listed medicines", "International Fragrance Association (IFRA) Survey: Transparency List"

aloes (CAS: 8001-97-6, 67479-27-0) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)"

water (CAS: 7732-18-5) is found on the following regulatory lists;

No data for Orion Benzoin Compound Tincture B.P. (CW: 6048-71)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzoin</td>
<td>119-53-9, 579-44-2, 5928-67-6</td>
</tr>
<tr>
<td>aloes</td>
<td>8001-97-6, 67479-27-0</td>
</tr>
</tbody>
</table>

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.
permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 16-Apr-2010
Print Date: 6-Aug-2012

This is the end of the MSDS.