



CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 1 of 14

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CANADA BALSAM (NATURAL)

OTHER NAMES

"Canada Balsam", "Canadian balsam", "Canada turpentine", "Balsam of Fir", "Balm of Gilead (improper useage)", "Terebinthina canadensis"

PRODUCT USE

Lenses cement, mounting in microscopy, manufacture of fine lacquers.
Has been used in the treatment of cough and bronchitis and for antiseptic and protective properties in various skin conditions.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

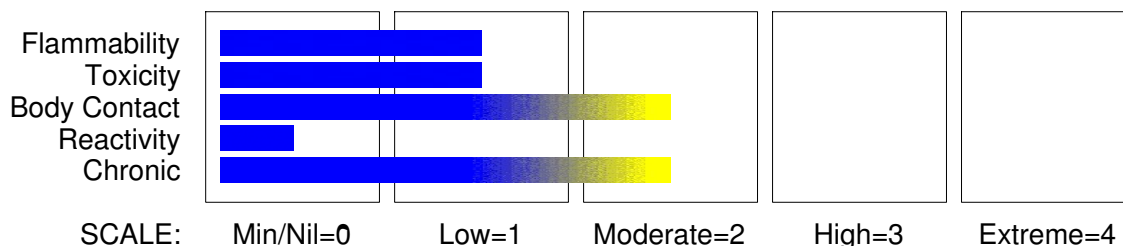
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Respiratory Irritation Category 3

Skin Sensitizer Category 1

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 2 of 14

Section 2 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by using GHS criteria:

H335 H317

May cause respiratory irritation

May cause allergic skin reaction

PRECAUTIONARY STATEMENTS

Prevention

Avoid breathing dust/fume/gas/mist/vapours/spray.

Contaminated clothing should not be allowed out of the workplace.

Response

Wash contaminated clothing before reuse.

If skin irritation or rash occurs, seek medical advice/attention.

IF ON SKIN: Gently wash with plenty of soap and water.

Specific treatment: refer to Label or MSDS.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
Canada balsam	8007-47-4	
consists of		
volatiles as		27.5
alpha- pinene	80-56-8	
beta- pinene	19902-08-0	
beta- phellandrene	555-10-2	
resin acids as		44.5
abietic acid	514-10-3	
neobietic acid		
neutral resinous compounds		27

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 3 of 14

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- 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
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

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.
- 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.
- 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.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
 - Alcohol stable foam.
 - Dry chemical powder.
 - Carbon dioxide.
- DO NOT use water. Water may spread and scatter fire.

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 4 of 14

Section 5 - FIRE FIGHTING MEASURES

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.

Cool fire exposed containers with water spray from a protected location.

If safe to do so, remove containers from path of fire.

DO NOT approach containers suspected to be hot.

FIRE/EXPLOSION HAZARD

- Combustible.
 - Slight fire hazard when exposed to heat or flame.
 - Heating may cause expansion or decomposition leading to violent rupture of containers.
 - On combustion, may emit toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
 - Mists containing combustible materials may be explosive.
- Decomposes on heating and produces acrid and toxic fumes of: carbon monoxide (CO) and other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

Avoid contamination with strong oxidising agents as ignition may result.

Personal Protective Equipment

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Slippery when spilt.

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

Slippery when spilt.

Moderate hazard.

- CAUTION: Advise personnel in area.
- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.
- Prevent, by any means available, spillage from entering drains or water courses.
- Recover product wherever possible.
- IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
- ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise Emergency Services.

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 5 of 14

Section 6 - ACCIDENTAL RELEASE MEASURES

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+ + + + + +

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Use good occupational work practice.
Avoid generating and breathing mist and vapour.
Avoid contact with skin and eyes.
Avoid contact with incompatible materials.
Avoid sources of heat.
Avoid physical damage to containers.
Wear protective clothing when risk of exposure occurs.
When handling, DO NOT eat, drink or smoke.
Wash hands with soap and water after handling.
Launder contaminated clothing before re-use.

SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers.
Balsams are both air and moisture sensitive.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- Canada balsam: CAS:8007- 47- 4
- alpha- pinene: CAS:80- 56- 8 CAS:1330- 16- 1 CAS:2437- 95- 8

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 6 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- beta- pinene:
- beta- phellandrene:
- abietic acid:

CAS:7785- 70- 8 CAS:7785- 26- 4
CAS:19902- 08- 0 CAS:18172- 67- 3 CAS:127- 91- 3
CAS:555- 10- 2 CAS:51941- 36- 7
CAS:514- 10- 3 CAS:72452- 62- 1

MATERIAL DATA

No exposure limits set by NOHSC or ACGIH.

INGREDIENT DATA

ALPHA-PINENE:

BETA-PINENE:

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans.

BETA-PINENE:

TLV TWA: 20 ppm A4 Sensitiser

BETA-PHELLANDRENE:

No exposure limits set by NOHSC or ACGIH.

CEL TWA: 100 ppm, 550 mg/m³

ABIETIC ACID:

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload).

PERSONAL PROTECTION

continued...

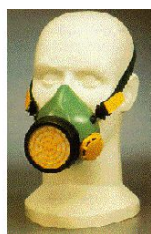
CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 7 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



EYE

- Safety glasses with side shields; or as required,
- 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].

HANDS/FEET

- Barrier cream and PVC gloves.
- Nitrile gloves.
Safety footwear.

OTHER

- Overalls.
- Eyewash unit.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:
solvent, vapours, degreasing etc., evaporating from tank (in still air)
aerosols, fumes from pouring operations,
intermittent container filling, low speed

Air Speed:
0.25- 0.5 m/s (50- 100 f/min)
0.5- 1 m/s (100- 200 f/min.)

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 8 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

1- 2.5 m/s (200- 500 f/min)

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 4: Small hood - local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Natural product consisting of resins, gums, essential and volatile oils, certain aromatic acids (usually cinnamic and benzoic acids).
Yellow/green viscid, transparent, slightly fluorescent liquid with agreeable, aromatic pine-like odour; does not mix with water.
Bitter taste. Gradually solidifies on exposure to air to form non-crystalline solid mass. Acid no. 84-87; Sapon No. 89.4-95.7.
Soluble in benzene, chloroform, xylene, ethyl acetate, oil of cedar, ether, oil of turpentine; about 90% dissolves in alcohol or pet. ether.

PHYSICAL PROPERTIES

Liquid.
Does not mix with water.
Floats on water.

Molecular Weight: Not applicable
Melting Range (°C): Not available
Solubility in water (g/L): Immiscible
pH (1% solution): Not applicable

Boiling Range (°C): Not available
Specific Gravity (water=1): 0.987- 0.994
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 9 of 14

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Volatile Component (%vol): Negligible
Relative Vapour Density (air=1): >1
Lower Explosive Limit (%): Not available
Autoignition Temp (°C): Not available
State: Liquid

Evaporation Rate: Not available
Flash Point (°C): 43
Upper Explosive Limit (%): Not available
Decomposition Temp (°C): Not available.

log Kow : 5.8-7.4

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

Considered an unlikely route of entry in commercial/industrial environments.
Ingestion may result in nausea, abdominal irritation, pain and vomiting.

EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

The liquid may produce skin discomfort following prolonged contact. Defatting and/or drying of the skin may lead to dermatitis.

Balsams and resins derived from plants may cause skin sensitisation; since many are chemically related by their content of esters (often cinnamic and benzoic acid derivatives), multiple sensitivities may occur. Many of the ingredients in balsams also occur in spices and essential oils and cross-sensitivity has been reported.

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 10 of 14

Section 11 - TOXICOLOGICAL INFORMATION

INHALED

Limited evidence exists, or practical experience predicts, that the material produces irritation of the respiratory system in a significant number of individuals following inhalation.

Although inhalation is not thought to produce harmful effects (as classified under EC Directives), the material may still produce health damage, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally confined to doses producing mortality rather than those producing morbidity (disease, ill-health).

Not normally a hazard due to non-volatile nature of product.

Acute effects from inhalation of high concentrations of vapour may be nose, throat and chest irritation with coughing, sneezing and possible nausea.

CHRONIC HEALTH EFFECTS

There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals.

Primary route of exposure is usually by skin contact and inhalation of vapour from heated material.

No human exposure data available. For this reason health effects described are based on experience with chemically related materials.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

TOXICITY AND IRRITATION

TOXICITY

Oral (rat) LD50: >5000 mg/kg

Dermal (rabbit) LD50: >5000 mg/kg

IRRITATION

Nil Reported

ALPHA-PINENE:

TOXICITY

Oral (rat) LD50: 3700 mg/kg

IRRITATION

Skin (man): 100% - SEVERE

The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.

Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.

Somnolence, respiratory tract changes

Skin (rabbit): 500 mg/24h - mod

BETA-PINENE:

TOXICITY

Oral (rabbit) LD50: 4700 mg/kg

IRRITATION

Skin (rabbit):500 mg/24h- Moderate

BETA-PHELLANDRENE:

No significant acute toxicological data identified in literature search.

ABIETIC ACID:

TOXICITY

Intravenous (mouse) LD50: 180 mg/kg

IRRITATION

Nil Reported

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 11 of 14

Section 12 - ECOLOGICAL INFORMATION

No data for Canada balsam.

Refer to data for ingredients, which follows:

ALPHA-PINENE:

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below). Most are reactive with environmental ozone and many produce stable products which are thought to adversely affect human health. The potential for surfaces in an enclosed space to facilitate reactions should be considered.

Source of unsaturated substances Occupants (exhaled breath, ski oils, personal care products)	Unsaturated substances (Reactive Emissions) Isoprene, nitric oxide, squalene, unsaturated sterols, oleic acid and other unsaturated fatty acids, unsaturated oxidation products	Major Stable Products produced following reaction with ozone. Methacrolein, methyl vinyl ketone, nitrogen dioxide, acetone, 6MHQ, geranyl acetone, 4OPA, formaldehyde, nonanol, decanal, 9- oxo- nonanoic acid, azelaic acid, nonanoic acid.
Soft woods, wood flooring, including cypress, cedar and silver fir boards, houseplants	Isoprene, limonene, alpha-pinene, other terpenes and sesquiterpenes	Formaldehyde, 4- AMC, pinoaldehyde, pinic acid, pinonic acid, formic acid, methacrolein, methyl vinyl ketone, SOAs including ultrafine particles
Carpets and carpet backing	4- Phenylcyclohexene, 4-vinylcyclohexene, styrene, 2-ethylhexyl acrylate, unsaturated fatty acids and esters	Formaldehyde, acetaldehyde, benzaldehyde, hexanal, nonanal, 2 - nonenal
Linoleum and paints/polishes containing linseed oil	Linoleic acid, linolenic acid	Propanal, hexanal, nonanal, 2-heptenal, 2- nonenal, 2-decenal, 1- pentene- 3 - one, propionic acid, n- butyric acid
Latex paint Certain cleaning products, polishes, waxes, air fresheners	Residual monomers Limonene, alpha- pinene, terpinolene, alpha- terpineol, linalool, linalyl acetate and other terpinoids, longifolene and other sesquiterpenes	Formaldehyde Formaldehyde, acetaldehyde, glycoaldehyde, formic acid, acetic acid, hydrogen and organic peroxides, acetone, benzaldehyde, 4- hydroxy- 4-methyl- 5- hexen- 1- al, 5 - ethenyl- dihydro- 5- methyl- 2(3H)- furanone, 4- AMC, SOAs including ultrafine particles
Natural rubber adhesive	Isoprene, terpenes	Formaldehyde, methacrolein, methyl vinyl ketone
Photocopier toner, printed paper, styrene polymers Environmental tobacco smoke	Styrene Styrene, acrolein, nicotine	Formaldehyde, benzaldehyde, hexanal, glyoxal, N-methylformamide, nicotinaldehyde, cotinine
Soiled clothing, fabrics, bedding	Squalene, unsaturated sterols, oleic acid and other saturated	Acetone, geranyl acetone, 6MHO, 4OPA, formaldehyde, nonanal,

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 12 of 14

Section 12 - ECOLOGICAL INFORMATION

	fatty acids	decanal, 9 - oxo- nonanoic acid, azelaic acid, nonanoic acid
Soiled particle filters	Unsaturated fatty acids from plant waxes, leaf litter, and other vegetative debris; soot; diesel particles	Formaldehyde, nonanal, and other aldehydes; azelaic acid; nonanoic acid; 9- oxo- nonanoic acid and other oxo- acids; compounds with mixed functional groups (=O, - OH, and - COOH) C5 to C10 aldehydes
Ventilation ducts and duct liners	Unsaturated fatty acids and esters, unsaturated oils, neoprene	
" Urban grime"	Polycyclic aromatic hydrocarbons	Oxidized polycyclic aromatic hydrocarbons
Perfumes, colognes, essential oils (e.g. lavender, eucalyptus, tea tree)	Limonene, alpha- pinene, linalool, linalyl acetate, terpinene- 4- ol, gamma - terpinene	Formaldehyde, 4- AMC, acetone, 4- hydroxy- 4- methyl- 5- hexen- 1- al, 5- ethenyl - dihydro- 5- methyl- 2(3H) furanone, SOAs including ultrafine particles
Overall home emissions	Limonene, alpha- pinene, styrene	Formaldehyde, 4- AMC, pinonaldehyde, acetone, pinic acid, pinonic acid, formic acid, benzaldehyde, SOAs including ultrafine particles

Abbreviations: 4-AMC, 4-acetyl-1-methylcyclohexene; 6MHQ, 6-methyl-5-heptene-2-one, 4OPA, 4-oxopentanal, SOA, Secondary Organic Aerosols

Reference: Charles J Weschler; Environmental Health Perspectives, Vol 114, October 2006.

Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max.).

The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm sea conditions. This is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals.

Some of the material will become associated with benthic sediments, and it is likely to be spread over a fairly wide area of sea floor. Marine sediments may be either aerobic or anaerobic. The material, in probability, is biodegradable, under aerobic conditions (isomerised olefins and alkenes show variable results). Evidence also suggests that the hydrocarbons may be degradable under anaerobic conditions although such degradation in benthic sediments may be a relatively slow process.

Under aerobic conditions the material will degrade to water and carbon dioxide, while under anaerobic processes it will produce water, methane and carbon dioxide.

Based on test results, as well as theoretical considerations, the potential for bioaccumulation may be high. Toxic effects are often observed in species such as blue mussel, daphnia, freshwater green algae, marine copepods and amphipods.
DO NOT discharge into sewer or waterways.

ABIETIC ACID:

Fish LC50 (96hr.) (mg/l): 0.4

log Kow : 5.8-7.4

BCF: 40-90

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 13 of 14

Section 12 - ECOLOGICAL INFORMATION

Toxicity Fish: LC50(96)0.7-2.38mg/L

Bioaccumulation: not sig

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

No regulations applicable

No data available for Canada balsam as CAS: 8007-47-4.

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
alpha- pinene	80- 56- 8	N; R50/53
alpha- pinene	1330- 16- 1	Xn; R22 N; R51/53
beta- pinene	18172- 67- 3	N; R50/53
beta- phellandrene	555- 10- 2	Xn; R22 N; R51/53
abietic acid	514- 10- 3	R43 N; R51/53

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
alpha- pinene	80- 56- 8, 1330- 16- 1, 2437 - 95- 8, 7785- 70- 8, 7785- 26- 4
beta- pinene	19902- 08- 0, 18172- 67- 3, 127- 91- 3
beta- phellandrene	555- 10- 2, 51941- 36- 7
abietic acid	514- 10- 3, 72452- 62- 1

continued...

CANADA BALSAM (NATURAL)

GHS Safety Data Sheet

Version No:2.0

Page 14 of 14

Section 16 - OTHER INFORMATION

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 12-May-2018