

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 1 of 12

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

MENTHOL CRYSTALS

OTHER NAMES

C10-H20-O, CH3C6H9(C3H7)OH, 1-menthol, 1-menthol, p-menthan-3-ol, p-menthan-3-ol, hexahydrothymol, 2-isopropyl-5-methylcyclohexanol, 2-isopropyl-5-methylcyclohexanol, 5-methyl-2-(1-methylethyl)cyclohexanol, 5-methyl-2-(1-methylethyl)cyclohexanol, l-menthol, l-menthol, "cyclohexanol, 2-isopropyl-5-methyl-", "cyclohexanol, 2-isopropyl-5-methyl-", "peppermint camphor", (-)-menthol, "1-menthol natural USP/ FCC", "1-menthol natural USP/ FCC"

PRODUCT USE

Perfumery, cigarettes, liquors, flavouring agent, chewing gum, chest rubs, cough drops.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,
MUMBAI- 400030.INDIA.

technical@sdfine.com

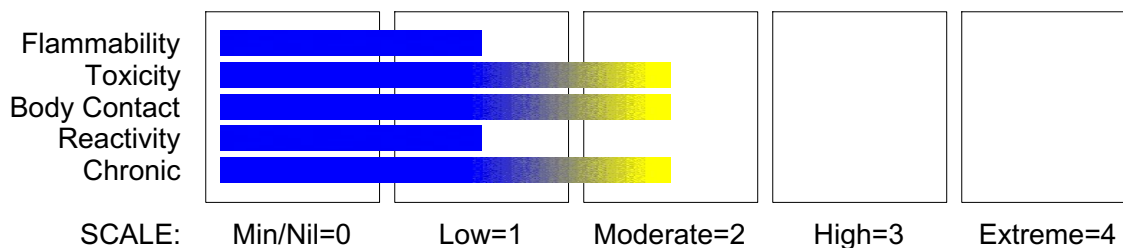
Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

Section 2 - HAZARDS IDENTIFICATION

HAZARD RATINGS



GHS Classification

Acute Toxicity (Oral) Category 4

Eye Irritation Category 2A

Skin Corrosion/Irritation Category 3

Skin Sensitizer Category 1

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 2 of 12

Section 2 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by using GHS criteria:

H302 H316 H319 H317

Harmful if swallowed

Causes mild skin irritation

Causes serious eye irritation

May cause allergic skin reaction

Harmful to terrestrial vertebrates

PRECAUTIONARY STATEMENTS

Prevention

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

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse mouth.

If skin irritation occurs: Get medical advice/ attention.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
menthol	89-78-1	> 99

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;

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 3 of 12

Section 4 - FIRST AID MEASURES

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.

For menthol intoxications:

- Empty the stomach by lavage and aspiration.
 - Give a purgative such as sodium sulfate, 30 g in 250 ml. of water.
 - Convulsions may be controlled by the intravenous administration of diazepam 5 to 10 mg. or if necessary, a short-acting barbiturate such as thiopentone sodium
- Martindale: The Extra Pharmacopoeia, 27th Ed.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 4 of 12

Section 5 - FIRE FIGHTING MEASURES

FIRE/EXPLOSION HAZARD

- Combustible solid which burns but propagates flame with difficulty.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited.
- Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
- Build-up of electrostatic charge may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
- All movable parts coming in contact with this material should have a speed of less than 1-meter/sec.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

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

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- » 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.

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

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MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 5 of 12

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 enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Glass container is suitable for laboratory quantities.
- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- 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.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- menthol: CAS:89- 78- 1 CAS:2216- 51- 5 CAS:1490- 04- 6 CAS:15356- 60- 2

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MENTHOL CRYSTALS

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

MATERIAL DATA

» 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). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

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 concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

PERSONAL PROTECTION



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

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 7 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

» Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocarbon
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

Suitability and durability of glove type is dependent on usage. Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity,

are important in the selection of gloves.

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.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	--	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand

** - Continuous flow.

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

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;

(b): filter respirators with absorption cartridge or canister of the right type;

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 8 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

(c): fresh-air hoods or masks

- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:

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).

Air Speed:

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 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres 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

White crystals with cooling odour and taste; slightly soluble in water. Soluble in alcohol, light petroleum solvents, glacial acetic acid and fixed or volatile oils.

May be l- (or (+)) form (from natural sources) or dl- (or (+/-)) form (natural or synthetic). The d (or (-))- form also occurs.

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

Floats on water.

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 9 of 12

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight: 156.30
Melting Range (°C): 41- 43 (I- form).
Solubility in water (g/L): Partly miscible
pH (1% solution): Not applicable.
Volatile Component (%vol): >90
Relative Vapour Density (air=1): Not available.
Lower Explosive Limit (%): Not available.
Autoignition Temp (°C): Not available.
State: Divided solid

Boiling Range (°C): 212
Specific Gravity (water=1): 0.89
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not available.
Evaporation Rate: Not available
Flash Point (°C): 93
Upper Explosive Limit (%): Not available.
Decomposition Temp (°C): 270
Viscosity: Not Applicable

Material
log Kow

Value
3.25- 3.27

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

» Accidental ingestion of the material may be damaging to the health of the individual.
» Taken internally the essential oils exert a mild irritant effect on the mucous membranes of the mouth and digestive tract which induces a feeling of warmth and increases salivation.

Excessive oral doses irritate the gastro-intestinal tract and may cause nausea, vomiting and diarrhoea. Occasional irritation of the urinary tract and aggravation of pre-existing inflammatory conditions have been reported. Other effects include dysuria, haematuria, unconsciousness and shallow respiration. Complications arising from ingestion of volatile oils include anuria, pulmonary oedema, and bronchial pneumonia.

Central nervous system depression may lead to stupor and possible respiratory failure whilst central system stimulation may lead to excitement and convulsions. Pathologic findings include renal degeneration and intense congestion and oedema in the lungs, brain and gastric mucosa. Excretion takes place through the lungs, skin and kidneys. Most essential oils are reported to be ecobolic but abortions cannot be induced at safe doses.

» Ingestion of menthol may produce severe abdominal pains, nausea, vomiting, ataxia, drowsiness and coma. The fatal dose for man is calculated to be 2 gm. After absorption, menthol is excreted in the urine and bile as the glucuronide.

EYE

» Evidence exists, or practical experience predicts, that the material may cause severe eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 10 of 12

Section 11 - TOXICOLOGICAL INFORMATION

damage/ulceration may occur.

SKIN

» When applied to intact skin essential oils have an irritant and rubefacient action, causing first a sensation of warmth and smarting followed by mild local anesthesia. They have been used as counter-irritants and cutaneous stimulants in the treatment of chronic inflammatory conditions and to relieve neuralgia and rheumatic pain. Care should be taken to avoid blistering. These oils may also produce sensitisation.

» Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

» Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.

» Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.

» Cases of instant collapse have been reported in infants following local application of menthol. Hypersensitivity reactions have also been reported following application of menthol-containing creams. In one case this was characterised by urticaria, flushing and headache.

INHALED

» Inhalation may produce health damage*.

» Inhalation of essential oil volatiles may produce dizziness, rapid, shallow breathing, tachycardia, bronchial irritation and unconsciousness or convulsions. Complications include anuria, pulmonary oedema and bronchial pneumonia.

» 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.

» The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

» In young children nasal drops, containing menthol, may cause spasm of the glottis.

CHRONIC HEALTH EFFECTS

» Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness. Lung shadows show on X-ray.

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.

Sensitisation may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities.

TOXICITY AND IRRITATION

» unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 3180 mg/kg

» The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

IRRITATION

Eye (rabbit): 0.75 mg - SEVERE

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 11 of 12

Section 11 - TOXICOLOGICAL INFORMATION

Section 12 - ECOLOGICAL INFORMATION

No data

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

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

Section 15 - REGULATORY INFORMATION

REGULATIONS

menthol (CAS: 89-78-1) is found on the following regulatory lists;
International Council of Chemical Associations (ICCA) - High Production Volume List

menthol (CAS: 2216-51-5) is found on the following regulatory lists;
International Council of Chemical Associations (ICCA) - High Production Volume List

No data available for menthol as CAS: 1490-04-6, CAS: 15356-60-2.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
menthol	89- 78- 1, 2216- 51- 5, 1490- 04- 6, 15356- 60- 2

MSDS SECTION CHANGES

The following table displays the version number of and date on which each section was last changed.

Section Name	Version	Date	Section Name	Version	Date	Section Name
Version Date						
First Aid (eye)	4	23- Mar- 2007	Engineering	4	23- Mar- 2007	Acute Health
4	23- Mar- 2007					
First Aid	4	23- Mar- 2007	Control	4	23- Mar- 2007	(inhaled)
4	23- Mar- 2007		Exposure Standard	4	23- Mar- 2007	Acute Health
(inhaled)						
First Aid	4	23- Mar- 2007	Personal	4	23- Mar- 2007	(skin)
4	23- Mar- 2007					Acute Health
(swallowed)						
Fire Fighter (fire)	4	23- Mar- 2007	Protection (eye)	4	23- Mar- 2007	(swallowed)
4	23- Mar- 2007		Personal	4	23- Mar- 2007	Chronic Health

continued...

MENTHOL CRYSTALS

GHS Safety Data Sheet

Version No:4

Page 12 of 12

Section 16 - OTHER INFORMATION

fighting)			Protection (hands/feet)			
Fire Fighter	4	23- Mar- 2007	Personal	4	23- Mar- 2007	Toxicity and
4 (fire/explosion hazard)	23- Mar- 2007		Protection (other)			Irritation (Irritation)
Spills (major)	4	23- Mar- 2007	Appearance	4	23- Mar- 2007	Toxicity and
4	23- Mar- 2007					Irritation (Other)
Handling Procedure	4	23- Mar- 2007	Physical	4	23- Mar- 2007	Environmental
4	23- Mar- 2007		Properties			
Storage (storage	4	23- Mar- 2007	Acute Health (eye)	4	23- Mar- 2007	Disposal
4 requirement)	23- Mar- 2007					
Storage (suitable container)	4	23- Mar- 2007				

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: 10-07-2018