LPS® 2® (Aerosol)

Alsco Ltd (GB)

Part Number: **00216, M00216**
Version No: **3.6**
Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: **23/01/2023**
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S.REACH.GB.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

1.1. Product Identifier

Product name	LPS® 2® (Aerosol)
Proper shipping name	AEROSOLS
Other means of identification	UFI:SQ3T-H053-K00C-H2EU

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	For Industrial Use Only Application is by spray atomisation from a hand held aerosol pack
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	**Alsco Ltd (GB)**	**ITW Pro Brands**
Address	Unit 13 Hillmead Industrial Estate Marshall Road Swindon, Wiltshire SN5 5FZ United Kingdom	4647 Hugh Howell Rd. Tucker, GA 30084 United States
Telephone	+44 1793 733 900	770-243-8800
Fax	Not Available	770-243-8899
Website	www.alscoltd.co.uk	www.itwprobrands.com
Email	info@alscoltd.co.uk	lpssds@itwprobrands.com

1.4. Emergency telephone number

Association / Organisation	**Chemtrec**	**Chemtrec**
Emergency telephone numbers	**+001 703-527-3887**	**1-800-424-9300 (inside U.S.)**
Other emergency telephone numbers	**844 892 0111**	**+001 703-527-3887 (outside U.S.)**

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]	H317 - Sensitisation (Skin) Category 1B, H222+H229 - Aerosols Category 1
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567*

2.2. Label elements

Hazard pictogram(s)	

Signal word	**Danger**

Hazard statement(s)

H317	May cause an allergic skin reaction.
H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.

Supplementary statement(s)

EUH066	Repeated exposure may cause skin dryness or cracking.

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Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P280	Wear protective gloves and protective clothing.
P261	Avoid breathing gas.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

2.3. Other hazards

Inhalation, skin contact and/or ingestion may produce health damage*.

Cumulative effects may result following exposure*.

May produce discomfort of the eyes and respiratory tract*.

Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	Listed in the Europe Regulation (EU) 2018/1881 Specific Requirements for Endocrine Disruptors

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	**%[weight]**	**Name**	**Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567**	**SCL / M-Factor**	**Nanoform Particle Characteristics**
1.64742-47-8* 2.926-141-6 3.649-422-00-2 4.Not Available	60-80	Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics **[e]**	Aspiration Hazard Category 1; H304, EUH066 [1]	0	Not Available
1.57855-77-3* 2.260-991-2 3.Not Available 4.Not Available	<2	calcium dinonyl naphthalenesulfonate	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Sensitisation (Skin) Category 1B; H315, H319, H317, Not Applicable [1]	Not Available	Not Available
1.8050-15-5 2.232-476-2 3.Not Available 4.Not Available	<0.2	resin acids and rosin acids, hydrogenated, methyl esters	Sensitisation (Skin) Category 1; H317, Not Applicable [1]	Not Available	Not Available
1.124-38-9 2.204-696-9 3.Not Available 4.Not Available	1-5	carbon dioxide *****	Gases Under Pressure (Liquefied Gas); H280, EUH044 [1]	Not Available	Not Available
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*				

SECTION 4 First aid measures

4.1. Description of first aid measures

Eye Contact	If aerosols come in contact with the eyes: ▸ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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Skin Contact	If solids or aerosol mists are deposited upon the skin: - Flush skin and hair with running water (and soap if available). - Remove any adhering solids with industrial skin cleansing cream. - **DO NOT** use solvents. - Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled: - Remove to fresh air. - 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. - If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. - Transport to hospital, or doctor.
Ingestion	Not considered a normal route of entry. - If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

SMALL FIRE:
- Water spray, dry chemical or CO2

LARGE FIRE:
- Water spray or fog.

5.2. Special hazards arising from the substrate or mixture

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

5.3. Advice for firefighters

Fire Fighting	FOR FIRES INVOLVING MANY GAS CYLINDERS: - To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s). - Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback. - **DO NOT extinguish the fire until the supply is shut off** otherwise an explosive re-ignition may occur. - If the fire is extinguished and the flow of gas continues, used increased ventilation to prevent build-up, of explosive atmosphere. - Use non-sparking tools to close container valves. - Be CAUTIOUS of a Boiling Liquid Evaporating Vapour Explosion, *BLEVE,* if fire is impinging on surrounding containers. - Direct 2500 litre/min (500 gpm) water stream onto containers above liquid level with the assistance remote monitors. - Alert Fire Brigade and tell them location and nature of hazard. - May be violently or explosively reactive. - Wear breathing apparatus plus protective gloves. - Prevent, by any means available, spillage from entering drains or water course. - If safe, switch off electrical equipment until vapour fire hazard removed. - 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. -- FIRE FIGHTING PROCEDURES: -- - The only safe way to extinguish a flammable gas fire is to stop the flow of gas. - If the flow cannot be stopped, allow the entire contents of the cylinder to burn while cooling the cylinder and surroundings with water from a suitable distance. - Extinguishing the fire without stopping the gas flow may permit the formation of ignitable or explosive mixtures with air. These mixtures may propagate to a source of ignition. -- SPECIAL HAZARDS -- - Excessive pressures may develop in a gas cylinder exposed in a fire; this may result in explosion. - Cylinders with pressure relief devices may release their contents as a result of fire and the released gas may constitute a further source of hazard for the fire-fighter. - Cylinders without pressure-relief valves have no provision for controlled release and are therefore more likely to explode if exposed to fire. -- FIRE FIGHTING REQUIREMENTS: -- The need for proximity, entry and flash-over protection and special protective clothing should be determined for each incident, by a competent fire-fighting safety professional.
Fire/Explosion Hazard	**WARNING:** In use may form flammable/ explosive vapour-air mixtures.

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	- Liquid and vapour are highly flammable. - Severe fire hazard when exposed to heat or flame. - Vapour forms an explosive mixture with air. - Severe explosion hazard, in the form of vapour, when exposed to flame or spark. - Vapour may travel a considerable distance to source of ignition. - Heating may cause expansion or decomposition with violent container rupture. - Aerosol cans may explode on exposure to naked flames. - Rupturing containers may rocket and scatter burning materials. - Hazards may not be restricted to pressure effects. - May emit acrid, poisonous or corrosive fumes. - On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon monoxide (CO) Combustible. Will burn if ignited. carbon dioxide (CO2) other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	- Clean up all spills immediately. - Avoid breathing vapours and contact with skin and eyes. - Wear protective clothing, impervious gloves and safety glasses. - Shut off all possible sources of ignition and increase ventilation. - Wipe up. - If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated. - Undamaged cans should be gathered and stowed safely.
Major Spills	- Clear area of all unprotected personnel and move upwind. - Alert Emergency Authority and advise them of the location and nature of hazard. - May be violently or explosively reactive. - Wear full body clothing with breathing apparatus. - Prevent by any means available, spillage from entering drains and water-courses. - Consider evacuation. - Shut off all possible sources of ignition and increase ventilation. - No smoking or naked lights within area. - Use extreme caution to prevent violent reaction. - **DO NOT** enter confined space where gas may have collected. - Keep area clear until gas has dispersed. - **DO NOT** exert excessive pressure on valve; **DO NOT** attempt to operate damaged valve. - Stop leak if safe to do so. - Water spray or fog may be used to disperse / absorb vapour. - Absorb or cover spill with sand, earth, inert materials or vermiculite. - If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated. - Undamaged cans should be gathered and stowed safely. - Collect residues and seal in labelled drums for disposal.

6.4. Reference to other sections

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

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Safe handling	The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid. - 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. - Avoid smoking, naked lights or ignition sources. - Avoid contact with incompatible materials. - When handling, **DO NOT** eat, drink or smoke. - **DO NOT** incinerate or puncture aerosol cans. - **DO NOT** spray directly on humans, exposed food or food utensils. - Avoid physical damage to containers. - Always wash hands with soap and water after handling. - Work clothes should be laundered separately. - Use good occupational work practice. - Observe manufacturer's storage and handling recommendations contained within this SDS. - Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

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Fire and explosion protection	See section 5
Other information	‣ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can ‣ Store in original containers in approved flammable liquid storage area. ‣ **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped. ‣ No smoking, naked lights, heat or ignition sources. ‣ Keep containers securely sealed. Contents under pressure. ‣ Store away from incompatible materials. ‣ Store in a cool, dry, well ventilated area. ‣ Avoid storage at temperatures higher than 40 deg C. ‣ Store in an upright position. ‣ Protect containers against physical damage. ‣ Check regularly for spills and leaks. ‣ Observe manufacturer's storage and handling recommendations contained within this SDS.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	‣ Glass container is suitable for laboratory quantities ‣ Aerosol dispenser. ‣ Check that containers are clearly labelled.
Storage incompatibility	Carbon dioxide: ‣ reacts violently with strong bases and alkali metals (especially their dusts) ‣ may ignite or explode when heated or in suspended chemically active metals (and their hydrides) such as aluminium, chromium, manganese, magnesium (above 775 C), titanium (above 550 C), uranium (above 750 C) or zirconium , diethylmagnesium ‣ is incompatible with water, acrolein, acrylaldehyde, amines, anhydrous ammonia, aziridine, metal acetylides (such as lithium acetylide), caesium monoxide (moist), lithium, potassium, sodium, sodium carbide, sodium-potassium alloy, sodium peroxide, titanium ‣ may build up static electricity when discharged at high flow rates from storage cylinders or fire extinguishers - this may produce sparks resulting in ignition of flammables or explosives. ‣ may decompose to toxic carbon monoxide and flammable oxygen when exposed to electrical discharges or very high temperatures ‣ Avoid reaction with oxidising agents ‣ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances
Hazard categories in accordance with Regulation (EC) No 1272/2008	P3b: Flammable Aerosols
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	P3b Lower- / Upper-tier requirements: 5 000 (net) / 50 000 (net)

+	x	+	x	+	+	+

X — *Must not be stored together*
0 — *May be stored together with specific preventions*
\+ — *May be stored together*

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	*Oral 18.75 mg/kg bw/day (Systemic, Chronic) **	Not Available
resin acids and rosin acids, hydrogenated, methyl esters	Dermal 7.77 mg/kg bw/day (Systemic, Chronic) Inhalation 10 mg/m³ (Local, Chronic) *Dermal 3.885 mg/kg bw/day (Systemic, Chronic) ** *Oral 3.885 mg/kg bw/day (Systemic, Chronic) **	0.027 mg/L (Water (Fresh)) 0.003 mg/L (Water - Intermittent release) 0.27 mg/L (Water (Marine)) 77.05 mg/kg sediment dw (Sediment (Fresh Water)) 7.7 mg/kg sediment dw (Sediment (Marine)) 15.35 mg/kg soil dw (Soil) 1.26 mg/L (STP)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs).	carbon dioxide	Carbon dioxide	5000 ppm / 9150 mg/m3	27400 mg/m3 / 15000 ppm	Not Available	Not Available

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Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	140 mg/m3	1,500 mg/m3	8,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	2,500 mg/m3	Not Available
calcium dinonyl naphthalenesulfonate	Not Available	Not Available
resin acids and rosin acids, hydrogenated, methyl esters	Not Available	Not Available
carbon dioxide	40,000 ppm	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	E	≤ 0.1 ppm
calcium dinonyl naphthalenesulfonate	E	≤ 0.01 mg/m³
resin acids and rosin acids, hydrogenated, methyl esters	D	> 0.1 to ≤ 1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

8.2. Exposure controls

8.2.1. Appropriate 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.
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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal 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:	Speed:
aerosols, (released at low velocity into zone of active generation)	0.5-1 m/s
direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	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.

8.2.2. 8.2.2. Personal protection

Not Available

Eye and face protection

- 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 lenses 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]
- Close fitting gas tight goggles

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Skin protection	See Hand protection below
Hands/feet protection	**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. ‣ No special equipment needed when handling small quantities. ‣ **OTHERWISE:** ‣ For potentially moderate exposures: ‣ Wear general protective gloves, eg. light weight rubber gloves. ‣ For potentially heavy exposures: ‣ Wear chemical protective gloves, eg. PVC. and safety footwear.
Body protection	See Other protection below
Other protection	‣ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton. ‣ Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost. BRETHERICK: Handbook of Reactive Chemical Hazards. No special equipment needed when handling small quantities. **OTHERWISE:** ‣ Overalls. ‣ Skin cleansing cream. ‣ Eyewash unit. ‣ Do not spray on hot surfaces.

Respiratory protection

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

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Brown

Physical state	Compressed Gas	**Relative density (Water = 1)**	0.82-0.86
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	195	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	79	**Taste**	Not Available
Evaporation rate	<0.1 BuAC = 1	**Explosive properties**	Not Available
Flammability	Combustible.	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC %**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

Continued...

10.1.Reactivity	See section 7.2
10.2. Chemical stability	Elevated temperatures. Presence of open flame. Product is considered stable. Hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation hazard is increased at higher temperatures. 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. **WARNING**:Intentional misuse by concentrating/inhaling contents may be lethal.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions. Considered an unlikely route of entry in commercial/industrial environments. The liquid may produce gastrointestinal discomfort and may be harmful if swallowed.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material 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. The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.
Eye	This material can cause eye irritation and damage in some persons. Not considered to be a risk because of the extreme volatility of the gas. Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Main route of exposure to the gas in the workplace is by inhalation.

LPS® 2® (Aerosol)

TOXICITY	IRRITATION
Not Available	Not Available

Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
Inhalation(Rat) LC50: >4.3 mg/l4h[1]	Skin: adverse effect observed (irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[2]	

calcium dinonyl naphthalenesulfonate

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >20000 mg/kg[2]	Not Available
Inhalation(Rat) LC50: >4.5 mg/L4h[2]	
Oral (Rat) LD50: >5000 mg/kg[2]	

resin acids and rosin acids, hydrogenated, methyl esters

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]

Continued...

	Oral (Rat) LD50: >2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]
carbon dioxide	**TOXICITY** Not Available	**IRRITATION** Not Available
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✗	**Reproductivity**	✗
Serious Eye Damage/Irritation	✗	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

Many chemicals may mimic or interfere with the body s hormones, known as the endocrine system. Endocrine disruptors are chemicals that can interfere with endocrine (or hormonal) systems.
Endocrine disruptors interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body. Any system in the body controlled by hormones can be derailed by hormone disruptors. Specifically, endocrine disruptors may be associated with the development of learning disabilities, deformations of the body various cancers and sexual development problems.
Endocrine disrupting chemicals cause adverse effects in animals. But limited scientific information exists on potential health problems in humans. Because people are typically exposed to multiple endocrine disruptors at the same time, assessing public health effects is difficult.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

LPS® 2® (Aerosol)

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	3072h	Fish	1mg/l	1
LC50	96h	Fish	2.2mg/l	4

calcium dinonyl naphthalenesulfonate

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

resin acids and rosin acids, hydrogenated, methyl esters

Endpoint	Test Duration (hr)	Species	Value	Source
EC50(ECx)	48h	Crustacea	166mg/l	2
EC50	72h	Algae or other aquatic plants	>1000mg/l	2
LC50	96h	Fish	>400mg/l	2
EC50	48h	Crustacea	166mg/l	2

carbon dioxide

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	35mg/l	1

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air

Continued...

Ingredient	Persistence: Water/Soil	Persistence: Air
carbon dioxide	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	LOW (BCF = 159)
carbon dioxide	LOW (LogKOW = 0.83)

12.4. Mobility in soil

Ingredient	Mobility
carbon dioxide	HIGH (KOC = 1.498)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✘	✘	✘
vPvB	✘	✘	✘

PBT Criteria fulfilled?	No
vPvB	No

12.6. Endocrine disrupting properties

The evidence linking adverse effects to endocrine disruptors is more compelling in the environment than it is in humans. Endocrine distruptors profoundly alter reproductive physiology of ecosystems and ultimately impact entire populations. Some endocrine-disrupting chemicals are slow to break-down in the environment. That characteristic makes them potentially hazardous over long periods of time. Some well established adverse effects of endocrine disruptors in various wildlife species include; eggshell-thinning, displayed of characteristics of the opposite sex and impaired reproductive development. Other adverse changes in wildlife species that have been suggested, but not proven include; reproductive abnormalities, immune dysfunction and skeletal deformaties.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal	‣ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ‣ It may be necessary to collect all wash water for treatment before disposal. ‣ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ‣ Where in doubt contact the responsible authority. ‣ Consult State Land Waste Management Authority for disposal. ‣ Discharge contents of damaged aerosol cans at an approved site. ‣ Allow small quantities to evaporate. ‣ **DO NOT** incinerate or puncture aerosol cans. ‣ Bury residues and emptied aerosol cans at an approved site.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADR-RID)

14.1. **UN number or ID number**	1950
14.2. **UN proper shipping name**	AEROSOLS
14.3. **Transport hazard class(es)**	Class 2.1 Subsidiary risk Not Applicable
14.4. **Packing group**	Not Applicable

14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): Not Applicable Classification code: 5F Hazard Label: 2.1 Special provisions: 190 327 344 625 Limited quantity: 1 L Tunnel Restriction Code: 2 (D)

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1950
14.2. **UN proper shipping name**	Aerosols, flammable
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 2.1 ICAO / IATA Subrisk: Not Applicable ERG Code: 10L
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: A145 A167 A802 Cargo Only Packing Instructions: 203 Cargo Only Maximum Qty / Pack: 150 kg Passenger and Cargo Packing Instructions: 203 Passenger and Cargo Maximum Qty / Pack: 75 kg Passenger and Cargo Limited Quantity Packing Instructions: Y203 Passenger and Cargo Limited Maximum Qty / Pack: 30 kg G

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	1950
14.2. **UN proper shipping name**	AEROSOLS
14.3. **Transport hazard class(es)**	IMDG Class: 2.1 IMDG Subrisk: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	EMS Number: F-D, S-U Special provisions: 63 190 277 327 344 381 959 Limited Quantities: 1000 ml

Inland waterways transport (ADN)

14.1. **UN number**	1950
14.2. **UN proper shipping name**	AEROSOLS
14.3. **Transport hazard class(es)**	2.1 | Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Classification code: 5F Special provisions: 190; 327; 344; 625 Limited quantity: 1 L Equipment required: PP, EX, A Fire cones number: 1

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group

Continued...

Product name	Group
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	Not Available
calcium dinonyl naphthalenesulfonate	Not Available
resin acids and rosin acids, hydrogenated, methyl esters	Not Available
carbon dioxide	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	Not Available
calcium dinonyl naphthalenesulfonate	Not Available
resin acids and rosin acids, hydrogenated, methyl esters	Not Available
carbon dioxide	Not Available

SECTION 15 Regulatory information

15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

Great Britain GB mandatory classification and labelling list (GB MCL)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

UK REACH grandfathered registrations notified substances list

calcium dinonyl naphthalenesulfonate is found on the following regulatory lists

Not Applicable

resin acids and rosin acids, hydrogenated, methyl esters is found on the following regulatory lists

Not Applicable

carbon dioxide is found on the following regulatory lists

FEI Equine Prohibited Substances List - Controlled Medication

FEI Equine Prohibited Substances List (EPSL)

Great Britain GB Biocidal Active Substances

UK Workplace Exposure Limits (WELs).

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	P3b

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics	64742-47-8*	649-422-00-2	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Asp. Tox. 1	GHS08; Dgr	H304
2	Asp. Tox. 1; STOT SE 3; Aquatic Chronic 2; STOT SE 3; STOT RE 2; Acute Tox. 4; Acute Tox. 4; Skin Corr. 1B; Acute Tox. 4; Muta. 1B; Carc. 1B; Flam. Liq. 2; STOT SE 2	GHS08; Dgr; GHS02; GHS09; GHS05	H304; H336; H411; H335; H373; H302; H312; H314; H332; H340; H350; H225; H371

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
calcium dinonyl naphthalenesulfonate	57855-77-3*	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Irrit. 2; Skin Sens. 1; Eye Irrit. 2	GHS07; Wng	H315; H317; H319

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Continued...

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
2	Skin Irrit. 2; Skin Sens. 1; Resp. Sens. 1; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1	GHS08; Dgr; GHS05; GHS09	H315; H317; H334; H318; H400; H410

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
resin acids and rosin acids, hydrogenated, methyl esters	8050-15-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Chronic 3		H412
2	Aquatic Chronic 3; Skin Sens. 1	GHS07; Wng	H412; H317

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
carbon dioxide	124-38-9	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Comp.	GHS04; Wng	H280
2	Comp.; Ref. Liq.; Acute Tox. 4; STOT SE 3	GHS04; GHS07; Dgr	H280; H281; H332; H335
1	Flam. Liq. 2; Carc. 1A; Aquatic Chronic 3	GHS08; GHS02; Dgr	H225; H350; H412
2	Flam. Liq. 2; Carc. 1A; Aquatic Chronic 3	GHS08; GHS02; Dgr	H225; H350; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (Hydrocarbons, C11-14, n-alkanes, isoalkanes, cyclic, <2% aromatics; calcium dinonyl naphthalenesulfonate; resin acids and rosin acids, hydrogenated, methyl esters; carbon dioxide)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (calcium dinonyl naphthalenesulfonate; resin acids and rosin acids, hydrogenated, methyl esters)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	23/01/2023
Initial Date	26/12/2022

Full text Risk and Hazard codes

H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H281	Contains refrigerated gas; may cause cryogenic burns or injury.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Continued...

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Other information

Ingredients with multiple cas numbers

Name	CAS No
resin acids and rosin acids, hydrogenated, methyl esters	8050-15-5, 8050-13-3

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.
The 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
, EUH066	On basis of test data
Sensitisation (Skin) Category 1B, H317	Calculation method
Aerosols Category 1, H222+H229	On basis of test data

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