

## HyperDrive 0W-20 C5 VAG

### Certas Lubricant Solutions

Part Number: EEH51

Version No: 1.3

Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: 28/11/2024

Print Date: 28/11/2024

S.REACH.GB.EN

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

##### 1.1. Product Identifier

Product name	HyperDrive 0W-20 C5 VAG
Synonyms	Not Available
Other means of identification	Not Available

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

Chemical Product Category	PC24 Lubricants, greases, release products
Relevant identified uses	Use according to manufacturer's directions.
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	Certas Lubricant Solutions
Address	1st Floor, Allday House, Warrington Road, Birchwood, Warrington Cheshire Great Britain
Telephone	0800 685 685
Fax	Not Available
Website	Not Available
Email	HSE.Sharedservice@certasenergy.co.uk

##### 1.4. Emergency telephone number

Association / Organisation	Certas Lubricants Solutions
Emergency telephone number(s)	0800 685 685 Mon – Fri 09:00 – 16:00 UK Time.
Other emergency telephone number(s)	Not Available

#### 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 <sup>[1]</sup>	Non hazardous
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)	Not Applicable
Signal word	Not Applicable

##### Hazard statement(s)

Not Applicable

##### Supplementary statement(s)

EUH208	Contains calcium alkylsalicylate, (C14-16-18)alkylphenol, Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

**Precautionary statement(s) Prevention**  
Not Applicable

**Precautionary statement(s) Response**  
Not Applicable

**Precautionary statement(s) Storage**  
Not Applicable

**Precautionary statement(s) Disposal**  
Not Applicable

Material contains 1-decene homopolymer, hydrogenated, calcium alkylsalicylate, (C14-16-18)alkylphenol, Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated.

**2.3. Other hazards**  
REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

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. 68037-01-4 2.500-183-1 3.Not Available 4.Not Available	10-50	<u>1-decene homopolymer, hydrogenated</u>	Aspiration Hazard Category 1; H304 <sup>[1]</sup>	SCL: Not Available  Acute M factor: Not Applicable  Chronic M factor: Not Applicable	Not Available
1. 114959-46-5 2.Not Available 3.Not Available 4.Not Available	1	<u>calcium alkylsalicylate</u>	Sensitisation (Skin) Category 1; H317 <sup>[1]</sup>	SCL: Not Available  Acute M factor: Not Applicable  Chronic M factor: Not Applicable	Not Available
1. 1190625-94-5 2.Not Available 3.Not Available 4.Not Available	1	<u>(C14-16-18)alkylphenol</u>	Sensitisation (Skin) Category 1B, Specific Target Organ Toxicity - Repeated Exposure Category 2; H317, H373 <sup>[1]</sup>	SCL: Not Available  Acute M factor: Not Applicable  Chronic M factor: Not Applicable	Not Available
1. Not Available 2.Not Available 3.Not Available 4.None	1	<u>Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated</u>	Sensitisation (Skin) Category 1B, Reproductive Toxicity Category 2; H317, H361d <sup>[1]</sup>	SCL: Not Available  Acute M factor: Not Applicable  Chronic M factor: Not Applicable	Not Available
<b>Legend:</b>		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**

<b>Eye Contact</b>	If this product comes in contact with eyes: ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
<b>Skin Contact</b>	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
<b>Inhalation</b>	▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
<b>Ingestion</b>	▶ Immediately give a glass of water.

▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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

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

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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5.3. Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li><li>▶ Wear full body protective clothing with breathing apparatus.</li><li>▶ Prevent, by any means available, spillage from entering drains or water course.</li><li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li><li>▶ Avoid spraying water onto liquid pools.</li><li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li><li>▶ Cool fire exposed containers with water spray from a protected location.</li><li>▶ If safe to do so, remove containers from path of fire.</li></ul>
Fire/Explosion Hazard	<ul style="list-style-type: none"><li>▶ Combustible.</li><li>▶ Slight fire hazard when exposed to heat or flame.</li><li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li><li>▶ On combustion, may emit irritating/ toxic fumes.</li><li>▶ May emit acrid smoke.</li><li>▶ Mists containing combustible materials may be explosive.</li></ul> May emit poisonous fumes.

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	<ul style="list-style-type: none"><li>▶ Remove all ignition sources.</li><li>▶ Clean up all spills immediately.</li><li>▶ Avoid breathing vapours and contact with skin and eyes.</li><li>▶ Control personal contact with the substance, by using protective equipment.</li><li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li><li>▶ Wipe up.</li><li>▶ Place in a suitable, labelled container for waste disposal.</li></ul>
Major Spills	Moderate hazard. <ul style="list-style-type: none"><li>▶ Clear area of personnel and move upwind.</li><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li><li>▶ Wear breathing apparatus plus protective gloves.</li><li>▶ Prevent, by any means available, spillage from entering drains or water course.</li><li>▶ No smoking, naked lights or ignition sources.</li><li>▶ Increase ventilation.</li><li>▶ Stop leak if safe to do so.</li><li>▶ Contain spill with sand, earth or vermiculite.</li><li>▶ Collect recoverable product into labelled containers for recycling.</li><li>▶ Absorb remaining product with sand, earth or vermiculite.</li><li>▶ Collect solid residues and seal in labelled drums for disposal.</li><li>▶ Wash area and prevent runoff into drains.</li><li>▶ If contamination of drains or waterways occurs, advise emergency services.</li></ul>

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	<ul style="list-style-type: none"><li>▶ Avoid all personal contact, including inhalation.</li><li>▶ Wear protective clothing when risk of exposure occurs.</li><li>▶ Use in a well-ventilated area.</li><li>▶ Prevent concentration in hollows and sumps.</li></ul>
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	<ul style="list-style-type: none"><li>▶ <b>DO NOT</b> enter confined spaces until atmosphere has been checked.</li><li>▶ <b>DO NOT</b> allow material to contact humans, exposed food or food utensils.</li><li>▶ Avoid contact with incompatible materials.</li><li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li><li>▶ Keep containers securely sealed when not in use.</li><li>▶ Avoid physical damage to containers.</li><li>▶ Always wash hands with soap and water after handling.</li><li>▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li><li>▶ Use good occupational work practice.</li><li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li><li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li></ul>
Fire and explosion protection	See section 5
Other information	<ul style="list-style-type: none"><li>▶ Store in original containers.</li><li>▶ Keep containers securely sealed.</li><li>▶ No smoking, naked lights or ignition sources.</li><li>▶ Store in a cool, dry, well-ventilated area.</li><li>▶ Store away from incompatible materials and foodstuff containers.</li><li>▶ Protect containers against physical damage and check regularly for leaks.</li><li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li></ul>

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"><li>▶ Metal can or drum</li><li>▶ Packaging as recommended by manufacturer.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul>
Storage incompatibility	None known
Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

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
Not Available	Not Available	Not Available

\* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Not Applicable

Ingredient	Original IDLH	Revised IDLH
1-decene homopolymer, hydrogenated	Not Available	Not Available
calcium alkylsalicylate	Not Available	Not Available
(C14-16-18)alkylphenol	Not Available	Not Available
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
calcium alkylsalicylate	D	> 0.1 to ≤ 1 ppm
(C14-16-18)alkylphenol	E	≤ 0.01 mg/m³
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	E	≤ 0.01 mg/m³
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.
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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 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:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 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. Individual protection measures, such as personal protective equipment



#### 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]

#### Skin protection

See Hand protection below

#### Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

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

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

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	<div>· Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</div> <div>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</div> <div><div>▶ Wear chemical protective gloves, e.g. PVC.</div><div>▶ Wear safety footwear or safety gumboots, e.g. Rubber</div></div>
Body protection	See Other protection below
Other protection	<div>▶ Overalls.</div> <div>▶ P.V.C apron.</div> <div>▶ Barrier cream.</div> <div>▶ Skin cleansing cream.</div> <div>▶ Eye wash unit.</div>

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	Clear & Bright Fluid		
Physical state	Liquid	Relative density (Water = 1)	0.844
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)	-48	Viscosity (cSt)	44.5
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	>200	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	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 g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	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

10.1.Reactivity	See section 7.2
10.2. Chemical stability	<div>▶ Unstable in the presence of incompatible materials.</div> <div>▶ Product is considered stable.</div> <div>▶ Hazardous polymerisation will not occur.</div>
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

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SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.	
Ingestion	The material has <b>NOT</b> been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.	
Skin Contact	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. 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.	
Eye	Although the liquid 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).	
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.	
HyperDrive 0W-20 C5 VAG	TOXICITY	IRRITATION
	Not Available	Not Available
1-decene homopolymer, hydrogenated	TOXICITY	IRRITATION
	Inhalation (Rat) LC50: >2500 mg/m3/4h ^[2]	Eye: no adverse effect observed (not irritating)^[1]
	Inhalation (Rat) LC50: 4.68 mg/l/1h^[2]	Skin: no adverse effect observed (not irritating)^[1]
	Oral (Rat) LD50: >5000 mg/kg^[2]	
	Oral (Rat) LD50: 36000 mg/kg ***[2]	
calcium alkylsalicylate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg *^[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg *^[2]	
(C14-16-18)alkylphenol	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg^[1]	Not Available
	Oral (Rat) LD50: >2000 mg/kg^[1]	
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	TOXICITY	IRRITATION
	Not Available	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	

1-decene homopolymer, hydrogenated	(estimated) * Evidence of conjunctival changes ** No evidence of tissue damage [Inland Vacuum Industries] ^ US EPA HPV Challenge program October 2002 For poly-alpha-olefins (PAOs): PAOs are highly branched, isoparaffinic chemicals produced by oligomerisation of 1-octene, 1-decene and/or 1-dodecene. The crude polyalphaolefin mixture is then distilled into appropriate product fractions to meet specific viscosity specifications and hydrogenated. In existing data, there appears to be no data to show that these structural analogs cause health effects. In addition, there is evidence in the literature that alkanes with 30 or more carbon atoms are unlikely to be absorbed when given by mouth. The physical and chemical properties make it unlikely that significant absorption into the body will occur. There are also no functional groups on PAO molecules that are biologically active. PAOs also have low volatility, so that exposure is unlikely to occur by inhalation. The high viscosity of these substances also makes it hard to generate a high concentration of breathable particles in air. Acute toxicity: Animal testing shows that PAOs have relatively low acute toxicity. Repeat dose toxicity: Animal testing shows that PAOs show low repeat dose toxicity – some increased scaling of the skin occurred, with skin inflammation, after exposure at high doses. Reproductive toxicity: Animal testing suggested that application of PAO to skin did not impair reproductive performance. Genetic toxicity: Testing has not shown any evidence that PAOs cause mutations or chromosomal aberrations. Cancer-causing potentials: Animal testing has not shown any propensity to cause tumours. While alpha-olefin polymers have similar properties to mineral oils, they do not contain polycyclic aromatic hydrocarbons, or other known cancer-causing materials.
calcium alkylsalicylate	IMO Evaluation of new products 2007 Calcium branched and linear alkyl salicylate
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	Linear alkyl benzene sulfonates are derived from strong corrosive acids. Animal testing has shown they can cause skin reactions, eye irritation, sluggishness, passage of frequent watery stools, weakness and may lead to death. They may also react with surfaces of the mouth and intestines, depending on the concentration exposed to. There is no evidence of harm to the unborn baby or tendency to cause cancer.
calcium alkylsalicylate & (C14-16-18)alkylphenol & Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance

	which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.			
(C14-16-18)alkylphenol & Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	No significant acute toxicological data identified in literature search.			
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

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

HyperDrive 0W-20 C5 VAG	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
1-decene homopolymer, hydrogenated	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
calcium alkylsalicylate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	48h	Crustacea	10-100mg/l	Not Available
	EC50	48h	Crustacea	10-100mg/l	Not Available
	LC50	96h	Fish	>1000mg/l	Not Available
(C14-16-18)alkylphenol	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	24h	Crustacea	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
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					

For Surfactants: Kow cannot be easily determined due to hydrophilic/hydrophobic properties of the molecules in surfactants. BCF value: 1-350.  
Aquatic Fate: Surfactants tend to accumulate at the interface of the air with water and are not extracted into one or the other liquid phases.  
Terrestrial Fate: Anionic surfactants are not appreciably sorbed by inorganic solids. Cationic surfactants are strongly sorbed by solids, particularly clays. Significant sorption of anionic and non-ionic surfactants has been observed in activated sludge and organic river sediments. Surfactants have been shown to improve water infiltration into soils with moderate to severe hydrophobic or water-repellent properties.  
Ecotoxicity: Some surfactants are known to be toxic to animals, ecosystems and humans, and can increase the diffusion of other environmental contaminants. The acute aquatic toxicity generally is considered to be related to the effects of the surfactant properties on the organism and not to direct chemical toxicity. Surfactants should be considered to be toxic to aquatic species under conditions that allow contact of the chemicals with the organisms. Surfactants are expected to transfer slowly from water into the flesh of fish. During this process, readily biodegradable surfactants are expected to be metabolized rapidly during the process of bioaccumulation. Surfactants are not to be considered to show bioaccumulation potential if they are readily biodegradable.  
**DO NOT discharge into sewer or waterways.**

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1-decene homopolymer, hydrogenated	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
1-decene homopolymer, hydrogenated	HIGH (LogKOW = 5.116)



12.4. Mobility in soil

Ingredient	Mobility
1-decene homopolymer, hydrogenated	LOW (Log KOC = 1724)

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

No evidence of endocrine disrupting properties were found in the current literature.

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	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"><li>▶ Reduction</li><li>▶ Reuse</li><li>▶ Recycling</li><li>▶ Disposal (if all else fails)</li></ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"><li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li><li>▶ It may be necessary to collect all wash water for treatment before disposal.</li><li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li><li>▶ Where in doubt contact the responsible authority.</li><li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li><li>▶ Consult State Land Waste Management Authority for disposal.</li><li>▶ Bury residue in an authorised landfill.</li><li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li></ul>
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): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number or ID number	Not Applicable												
14.2. UN proper shipping name	Not Applicable												
14.3. Transport hazard class(es)	<table><tr><td>Class</td><td>Not Applicable</td></tr><tr><td>Subsidiary Hazard</td><td>Not Applicable</td></tr></table>	Class	Not Applicable	Subsidiary Hazard	Not Applicable								
Class	Not Applicable												
Subsidiary Hazard	Not Applicable												
14.4. Packing group	Not Applicable												
14.5. Environmental hazard	Not Applicable												
14.6. Special precautions for user	<table><tr><td>Hazard identification (Kemler)</td><td>Not Applicable</td></tr><tr><td>Classification code</td><td>Not Applicable</td></tr><tr><td>Hazard Label</td><td>Not Applicable</td></tr><tr><td>Special provisions</td><td>Not Applicable</td></tr><tr><td>Limited quantity</td><td>Not Applicable</td></tr><tr><td>Tunnel Restriction Code</td><td>Not Applicable</td></tr></table>	Hazard identification (Kemler)	Not Applicable	Classification code	Not Applicable	Hazard Label	Not Applicable	Special provisions	Not Applicable	Limited quantity	Not Applicable	Tunnel Restriction Code	Not Applicable
Hazard identification (Kemler)	Not Applicable												
Classification code	Not Applicable												
Hazard Label	Not Applicable												
Special provisions	Not Applicable												
Limited quantity	Not Applicable												
Tunnel Restriction Code	Not Applicable												

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

HyperDrive 0W-20 C5 VAG

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	ICAO/IATA Class	Not Applicable
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	Not Applicable
	Cargo Only Packing Instructions	Not Applicable
	Cargo Only Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Packing Instructions	Not Applicable
	Passenger and Cargo Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Limited Quantity Packing Instructions	Not Applicable
	Passenger and Cargo Limited Maximum Qty / Pack	Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	IMDG Class	Not Applicable
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	Not Applicable
	Special provisions	Not Applicable
	Limited Quantities	Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable	
14.2. UN proper shipping name	Not Applicable	
14.3. Transport hazard class(es)	Not Applicable	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Classification code	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable
	Equipment required	Not Applicable
	Fire cones number	Not Applicable

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
1-decene homopolymer, hydrogenated	Not Available
calcium alkylsalicylate	Not Available
(C14-16-18)alkylphenol	Not Available
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
1-decene homopolymer, hydrogenated	Not Available
calcium alkylsalicylate	Not Available
(C14-16-18)alkylphenol	Not Available
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	Not Available

SECTION 15 Regulatory information

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

1-decene homopolymer, hydrogenated is found on the following regulatory lists
Not Applicable
calcium alkylsalicylate is found on the following regulatory lists
Not Applicable
(C14-16-18)alkylphenol is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated is found on the following regulatory lists
Not Applicable

Additional Regulatory Information

Not Applicable
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	Not Available
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15.2. Chemical safety assessment

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

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No ((C14-16-18)alkylphenol)
Canada - DSL	No ((C14-16-18)alkylphenol)
Canada - NDSL	No (1-decene homopolymer, hydrogenated; calcium alkylsalicylate; (C14-16-18)alkylphenol)
China - IECSC	No ((C14-16-18)alkylphenol)
Europe - EINEC / ELINCS / NLP	No (calcium alkylsalicylate; (C14-16-18)alkylphenol)
Japan - ENCS	No ((C14-16-18)alkylphenol)
Korea - KECI	No ((C14-16-18)alkylphenol)
New Zealand - NZIoC	No ((C14-16-18)alkylphenol)
Philippines - PICCS	No ((C14-16-18)alkylphenol)
USA - TSCA	TSCA Inventory 'Active' substance(s) (1-decene homopolymer, hydrogenated; calcium alkylsalicylate); No ((C14-16-18)alkylphenol)
Taiwan - TCSI	No ((C14-16-18)alkylphenol)
Mexico - INSQ	No (calcium alkylsalicylate; (C14-16-18)alkylphenol)
Vietnam - NCI	Yes
Russia - FBEPH	No (calcium alkylsalicylate; (C14-16-18)alkylphenol)
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	28/11/2024
Initial Date	11/11/2024

Full text Risk and Hazard codes

H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

SDS Version Summary

Version	Date of Update	Sections Updated
0.3	28/11/2024	Physical and chemical properties - Appearance

Other information

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.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
  
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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
, EUH208	Expert judgement
, EUH210	Calculation method

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