Florida Total Petroleum Hydrocarbon Standard Mixture

High-Purity Standards

Chemwatch Hazard Alert Code: **3**

Catalogue number: **FTPH-M17C**
Version No: **1.1**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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SECTION 1 IDENTIFICATION

Product Identifier

Product name	Florida Total Petroleum Hydrocarbon Standard Mixture
Synonyms	FTPH-M17C, Florida Alkanes
Proper shipping name	Hexanes
Other means of identification	FTPH-M17C

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	High-Purity Standards
Address	PO Box 41727 SC 29423 United States
Telephone	843-767-7900
Fax	843-767-7906
Website	highpuritystandards.com
Email	Not Available

Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	1-800-535-5053
Other emergency telephone numbers	1-352-323-3500

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Classification	Flammable Liquid Category 2

Label elements

Hazard pictogram(s)	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H225	Highly flammable liquid and vapour.

Hazard(s) not otherwise specified

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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Precautionary statement(s) Response

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
110-54-3	balance	n-hexane
124-18-5	0.05	n-decane
629-97-0	0.05	docosane
112-40-3	0.05	n-dodecane
544-85-4	0.05	dotriacontane
112-95-8	0.05	eicosane
630-01-3	0.05	hexacosane
544-76-3	0.05	hexadecane
630-06-8	0.05	hexatriacontane
630-02-4	0.05	octacosane
593-45-3	0.05	octadecane
111-65-9	0.05	n-octane
7194-85-6	0.05	octatriacontane
4181-95-7	0.05	tetracontane
646-31-1	0.05	tetracosane
629-59-4	0.05	tetradecane
14167-59-0	0.05	tetratriacontane
638-68-6	0.05	triacontane

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	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.
Skin Contact	If skin or hair contact occurs: ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation. For thermal burns: ▸ Decontaminate area around burn. ▸ Consider the use of cold packs and topical antibiotics. For first-degree burns (affecting top layer of skin) ▸ Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. ▸ Use compresses if running water is not available. ▸ Cover with sterile non-adhesive bandage or clean cloth. ▸ Do NOT apply butter or ointments; this may cause infection. ▸ Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. For second-degree burns (affecting top two layers of skin) ▸ Cool the burn by immerse in cold running water for 10-15 minutes. ▸ Use compresses if running water is not available. ▸ Do NOT apply ice as this may lower body temperature and cause further damage. ▸ Do NOT break blisters or apply butter or ointments; this may cause infection. ▸ Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort): ▸ Lay the person flat. ▸ Elevate feet about 12 inches. ▸ Elevate burn area above heart level, if possible. ▸ Cover the person with coat or blanket. ▸ Seek medical assistance. For third-degree burns Seek immediate medical or emergency assistance. In the mean time: ▸ Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound.

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	▸ Separate burned toes and fingers with dry, sterile dressings. ▸ Do not soak burn in water or apply ointments or butter; this may cause infection. ▸ To prevent shock see above. ▸ For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. ▸ Have a person with a facial burn sit up. ▸ Check pulse and breathing to monitor for shock until emergency help arrives.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. ▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice. ▸ Avoid giving milk or oils. ▸ Avoid giving alcohol.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

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

Special protective equipment and precautions for fire-fighters

Fire Fighting	
Fire/Explosion Hazard	▸ Liquid and vapour are flammable. ▸ Moderate fire hazard when exposed to heat or flame. ▸ Vapour forms an explosive mixture with air. ▸ Moderate explosion hazard when exposed to heat or flame. ▸ Vapour may travel a considerable distance to source of ignition. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. ▸ On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) other pyrolysis products typical of burning organic material.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment. ▸ Contain and absorb small quantities with vermiculite or other absorbent material. ▸ Wipe up. ▸ Collect residues in a flammable waste container.
Major Spills	#

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

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SECTION 7 HANDLING AND STORAGE

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. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. ▸ Containers, even those that have been emptied, may contain explosive vapours. ▸ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. ▸ Electrostatic discharge may be generated during pumping - this may result in fire. ▸ Ensure electrical continuity by bonding and grounding (earthing) all equipment. ▸ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). ▸ Avoid splash filling. ▸ Do NOT use compressed air for filling discharging or handling operations. ▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of overexposure 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 generation of static electricity. ▸ **DO NOT** use plastic buckets. ▸ Earth all lines and equipment. ▸ Use spark-free tools when handling. ▸ 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. ▸ 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.
Other information	▸ Store in original containers in approved flammable liquid storage area. ▸ Store away from incompatible materials in a cool, dry, well-ventilated area. ▸ **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped. ▸ No smoking, naked lights, heat or ignition sources. ▸ Storage areas should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorised personnel - adequate security must be provided so that unauthorised personnel do not have access. ▸ Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable quantities and minimum storage distances. ▸ Use non-sparking ventilation systems, approved explosion proof equipment and intrinsically safe electrical systems. ▸ Have appropriate extinguishing capability in storage area (e.g. portable fire extinguishers - dry chemical, foam or carbon dioxide) and flammable gas detectors. ▸ Keep adsorbents for leaks and spills readily available. ▸ Protect containers against physical damage and check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. In addition, for tank storages (where appropriate): ▸ Store in grounded, properly designed and approved vessels and away from incompatible materials. ▸ For bulk storages, consider use of floating roof or nitrogen blanketed vessels; where venting to atmosphere is possible, equip storage tank vents with flame arrestors; inspect tank vents during winter conditions for vapour/ ice build-up. ▸ Storage tanks should be above ground and diked to hold entire contents.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Packing as supplied by manufacturer. ▸ Plastic containers may only be used if approved for flammable liquid. ▸ Check that containers are clearly labelled and free from leaks. ▸ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure. ▸ For materials with a viscosity of at least 2680 cSt. (23 deg. C) ▸ For manufactured product having a viscosity of at least 250 cSt. (23 deg. C) ▸ Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used. ▸ Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages ▸ In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
Storage incompatibility	▸ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	n-hexane	n-Hexane	1800 mg/m3 / 500 ppm	Not Available	Not Available	TLV® Basis: CNS impair; peripheral neuropathy; eye irr; BEI

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US ACGIH Threshold Limit Values (TLV)	n-hexane	n-Hexane	50 ppm	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	n-octane	n-Octane, normal-Octane	350 mg/m3 / 75 ppm	Not Available	1800 mg/m3 / 385 ppm	[15-minute]

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
n-hexane	Hexane	260 ppm	Not Available	Not Available
n-decane	Decane	6.6 ppm	73 ppm	440 ppm
n-dodecane	Dodecane	1.7 ppm	18 ppm	110 ppm
hexadecane	Hexadecane	35 mg/m3	380 mg/m3	2,800 mg/m3
octacosane	Octacosane	230 ppm	385 ppm	5,000 ppm
octadecane	Octadecane, n-	230 ppm	385 ppm	5,000 ppm
n-octane	Octane, n-	230 ppm	385 ppm	5000 ppm
tetradecane	Tetradecane; (n-Tetradecane)	3.1 ppm	34 ppm	200 ppm

Ingredient	Original IDLH	Revised IDLH
n-hexane	5,000 ppm	1,100 [LEL] ppm
n-decane	Not Available	Not Available
docosane	Not Available	Not Available
n-dodecane	Not Available	Not Available
dotriacontane	Not Available	Not Available
eicosane	Not Available	Not Available
hexacosane	Not Available	Not Available
hexadecane	Not Available	Not Available
hexatriacontane	Not Available	Not Available
octacosane	Not Available	Not Available
octadecane	Not Available	Not Available
n-octane	5,000 ppm	1,000 [LEL] ppm
octatriacontane	Not Available	Not Available
tetracontane	Not Available	Not Available
tetracosane	Not Available	Not Available
tetradecane	Not Available	Not Available
tetratriacontane	Not Available	Not Available
triacontane	Not Available	Not Available

Exposure controls

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.

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.
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.)

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

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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.

Personal protection	
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	Wear general protective gloves, eg. light weight rubber gloves. 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 moisturizer 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. 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. · 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 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.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. ▸ Ensure there is ready access to a safety shower. · Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. · For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). · Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.
Thermal hazards	Not Available

Respiratory protection

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class 1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3

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100+	-	Airline**

* - Continuous Flow
** - Continuous-flow or positive pressure demand.
A(All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 deg C)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Not Available

Physical state	Liquid	**Relative density (Water = 1)**	Not Available
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**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**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 (g/L)	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

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. 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. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.
Ingestion	The material has **NOT** 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 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. The material may accentuate any pre-existing dermatitis condition
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	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation.

	TOXICITY	IRRITATION
Florida Total Petroleum Hydrocarbon Standard Mixture	Not Available	Not Available

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n-hexane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye(rabbit): 10 mg - mild
Inhalation (rat) LC50: 48000 ppm/4hr[2]	
Oral (rat) LD50: 28710 mg/kgd[2]	

n-decane

TOXICITY	IRRITATION
Inhalation (rat) LC50: >2738 ppm/8hr[2]	Not Available

docosane

TOXICITY	IRRITATION
Not Available	Not Available

n-dodecane

TOXICITY	IRRITATION
Inhalation (rat) LC50: >284 ppm/8hr[2]	Not Available

dotriacontane

TOXICITY	IRRITATION
Not Available	Not Available

eicosane

TOXICITY	IRRITATION
dermal (rat) LD50: >1700 mg/kg[1]	Not Available
dermal (rat) LD50: >1700 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	

hexacosane

TOXICITY	IRRITATION
Not Available	Not Available

hexadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >1700 mg/kg[1]	Skin (g.pig): 100 mg/24h-SEVERE
dermal (rat) LD50: >1700 mg/kg[1]	Skin (man): 50 mg/48h-SEVERE
dermal (rat) LD50: >1700 mg/kg[1]	Skin (pig): 50 mg/24h-SEVERE
dermal (rat) LD50: >2000 mg/kg[1]	Skin (rabbit): 100 mg/24h-SEVERE
Oral (rat) LD50: >4150 mg/kg[1]	Skin (rat): 100 mg/24h - SEVERE
Oral (rat) LD50: >4150 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	
Oral (rat) LD50: >5000 mg/kg[1]	

hexatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

octacosane

TOXICITY	IRRITATION
Not Available	Not Available

octadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >1700 mg/kg[1]	Not Available
dermal (rat) LD50: >1700 mg/kg[1]	
dermal (rat) LD50: >1700 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	
Oral (rat) LD50: >4150 mg/kg[1]	

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n-octane

TOXICITY	IRRITATION
Inhalation (rat) LC50: 25260 ppm/4hr[2]	Not Available
Oral (rat) LD50: 5630 mg/kg*[CCINFO]d[2]	

octatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

tetracontane

TOXICITY	IRRITATION
Not Available	Not Available

tetracosane

TOXICITY	IRRITATION
Not Available	Not Available

tetradecane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Not Available
Oral (rat) LD50: >5000 mg/kg[1]	

tetratriacontane

TOXICITY	IRRITATION
Not Available	Not Available

triacontane

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*

N-HEXANE	The material may be irritating to the eye, with prolonged contact causing inflammation.
N-DODECANE	Equivocal tumorigen by RTECS criteria.
HEXADECANE	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
N-OCTANE	Oral (rat) LD50: 5630 mg/kg* [CCINFO] Nil reported
N-DECANE & DOCOSANE & N-DODECANE & EICOSANE & HEXACOSANE & HEXADECANE & OCTACOSANE & OCTADECANE & TETRACOSANE & TETRADECANE	Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30.
N-DECANE & N-DODECANE & HEXADECANE & TETRADECANE	Animal testing showed exposure to high concentrations (over 3500 parts per million) of C9 to C13 alkanes in air caused inco-ordination, seizures and spasms.
N-DECANE & DOCOSANE & N-DODECANE & EICOSANE & HEXACOSANE & HEXATRIACONTANE & OCTACOSANE & OCTADECANE & OCTATRIACONTANE & TETRACONTANE & TETRACOSANE & TETRADECANE & TETRATRIACONTANE & TRIACONTANE	No significant acute toxicological data identified in literature search.
DOCOSANE & N-DODECANE & HEXADECANE & OCTADECANE & TETRADECANE	Asthma-like symptoms may continue for months or even years after exposure to the material ends.
DOCOSANE & DOTRIACONTANE & EICOSANE & HEXACOSANE &	"Hydrocarbon wax" describes a group of solid C20 to C36 paraffinic hydrocarbons which are not absorbed in the gastro-intestinal tract and in small quantity will pass through undigested.

Continued...

HEXATRIACONTANE & OCTACOSANE & OCTADECANE & OCTATRIACONTANE & TETRACONTANE & TETRACOSANE & TETRATRIACONTANE & TRIACONTANE	
DOCOSANE & DOTRIACONTANE & EICOSANE & HEXACOSANE & HEXATRIACONTANE & OCTACOSANE & OCTADECANE & OCTATRIACONTANE & TETRACONTANE & TETRACOSANE & TETRATRIACONTANE & TRIACONTANE	Refined waxes are used widely in cosmetic surgery over many years and this demonstrates their low toxicity; many guidelines exist for their safe use.

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 available but does not fill the criteria for classification*
✓ *– Data available to make classification*
⊘ *– Data Not Available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Florida Total Petroleum Hydrocarbon Standard Mixture

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

n-hexane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.674mg/L	3
EC50	48	Crustacea	3877.65mg/L	4
EC50	96	Algae or other aquatic plants	3.089mg/L	3
EC50	8	Algae or other aquatic plants	0.3mg/L	4

n-decane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.093mg/L	3
EC50	48	Crustacea	=0.029mg/L	1
EC50	96	Algae or other aquatic plants	0.094mg/L	3
EC50	9	Algae or other aquatic plants	0.005mg/L	4
NOEC	72	Algae or other aquatic plants	=0.05mg/L	1

docosane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>500mg/L	4
EC50	96	Algae or other aquatic plants	0.28878mg/L	3
EC50	384	Crustacea	0.00082mg/L	3
NOEC	48	Crustacea	<68mg/L	4

n-dodecane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.013mg/L	3
EC50	48	Crustacea	ca.0.2mg/L	2
EC50	96	Algae or other aquatic plants	0.015mg/L	3
BCF	24	Algae or other aquatic plants	0.05mg/L	4
EC50	384	Crustacea	0.006mg/L	3

Continued...

dotriacontane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	384	Crustacea	0.05509mg/L	3

eicosane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.00013mg/L	3
EC50	384	Crustacea	0.11927mg/L	3

hexacosane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	96	Algae or other aquatic plants	0.00038mg/L	3
EC50	384	Crustacea	0.05853mg/L	3

hexadecane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.000249mg/L	3
EC50	96	Algae or other aquatic plants	0.000366mg/L	3
BCF	12	Fish	3.39mg/L	4
EC50	384	Crustacea	0.000317mg/L	3

hexatriacontane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	96	Algae or other aquatic plants	0.00213mg/L	3

octacosane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.12493mg/L	3
EC50	384	Crustacea	0.0001mg/L	3

octadecane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.000248mg/L	3
EC50	96	Algae or other aquatic plants	0.00018mg/L	3

n-octane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.427mg/L	3
EC50	48	Crustacea	0.3mg/L	2
EC50	96	Algae or other aquatic plants	0.556mg/L	3
EC50	9	Algae or other aquatic plants	0.001mg/L	4
NOEC	504	Crustacea	0.17mg/L	2

octatriacontane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	384	Crustacea	0.0859mg/L	3

tetracontane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

tetracosane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	96	Algae or other aquatic plants	0.01512mg/L	3

tetradecane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.00182mg/L	3
EC50	48	Crustacea	ca.0.2mg/L	2
EC50	96	Algae or other aquatic plants	0.002mg/L	3
EC50	384	Crustacea	0.00141mg/L	3
NOEC	72	Algae or other aquatic plants	=0.0022mg/L	1

tetratriacontane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	96	Algae or other aquatic plants	0.19542mg/L	3

Continued...

	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
triacontane	LC50	96	Fish	0.00297mg/L	3

Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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*

Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).
For Hydrocarbons: log Kow 1. BCF~10.
For Aromatics: log Kow 2-3.
BCF 20-200. For C5 and greater alkanes: log Kow 3-4.5. BCF 100-1,500.
For Alkanes, Benzene, Toluene, Ethylbenzene, Xylene (BTEX):
Environmental Fate: Microbes found in many natural settings (e.g., soils, groundwater, ponds) have been shown to be capable of degrading organic compounds. Some hydrocarbons will become associated with marine sediments likely to be spread over a fairly wide area of sea floor. Under aerobic conditions, hydrocarbons degrade to water and carbon dioxide, while under anaerobic processes, they produce water, methane and carbon dioxide. Anaerobic degradation is slower than aerobic. Biodegradation can eliminate the contaminants without dispersing them throughout the environment. The rate of hydrocarbon degradation depends on the chemical composition of the product released to the environment as well as site-specific environmental factors. Hydrocarbons with condensed ring structures, such as PAHs (polycyclic aromatic hydrocarbons) with four or more rings, have been shown to be relatively resistant to biodegradation. PAHs with only 2 or 3 rings (e.g., naphthalene, anthracene) are more easily biodegraded. In almost all cases, the presence of oxygen is essential for effective biodegradation. Straight chain hydrocarbons and aromatics degrade more readily than highly branched aliphatic compounds. The n-alkanes, n-alkyl aromatics, and the aromatics in the C10-C22 range are the most readily biodegradable; n-alkanes, n-alkyl aromatics, and aromatics in the C5-C9 range are biodegradable at low concentrations by some microorganisms, but are generally preferentially removed by volatilization and thus are unavailable in most environments; n-alkanes in the C1-C4 ranges are biodegradable only by a narrow range of specialized hydrocarbon degraders; n-alkanes, n-alkyl aromatics, and aromatics above C22 are generally not available to degrading microorganisms. The ideal pH range to promote biodegradation is close to neutral (6-8). For most species, the optimal pH is slightly alkaline, that is, greater than 7. Generally, as the temperature increases, biological activity tends to increase up to a temperature where enzyme denaturation occurs.
Atmospheric Fate: Alkanes, isoalkanes, and cycloalkanes have half-lives on the order of 1-10 days, whereas alkenes, cycloalkenes, and substituted benzenes have half-lives of 1 day or less. Photochemical oxidation products include aldehydes, hydroxy compounds, nitro compounds, and peroxyacyl nitrates. Alkenes, certain substituted aromatics, and naphthalene are potentially susceptible to direct photolysis.
Aquatic Fate: Volatilization half-life predicted as 7 days (ponds), 1.5 days (rivers), 6 days (lakes). Volatilization rate of naphthalene and its substituted derivatives estimated to be slower.The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm seas which is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals. Ecotoxicity: Effects on freshwater/saltwater organisms: Hydrocarbons are hydrophobic. Such substances produce toxicity in aquatic organisms by a mechanism referred to as "non-polar narcosis" or "baseline" toxicity. Toxic effects are often observed in species such as blue mussel, water fleas, freshwater green algae, marine copepods and amphipods.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-hexane	LOW	LOW
n-decane	LOW	LOW
docosane	LOW	LOW
n-dodecane	LOW	LOW
dotriacontane	LOW	LOW
eicosane	LOW	LOW
hexacosane	LOW	LOW
hexadecane	LOW	LOW
hexatriacontane	HIGH	HIGH
octacosane	LOW	LOW
octadecane	LOW	LOW
n-octane	LOW	LOW
octatriacontane	HIGH	HIGH
tetracontane	HIGH	HIGH
tetracosane	LOW	LOW
tetradecane	LOW	LOW
tetratriacontane	HIGH	HIGH
triacontane	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
n-hexane	MEDIUM (LogKOW = 3.9)
n-decane	HIGH (BCF = 3636)
docosane	LOW (LogKOW = 11.1456)
n-dodecane	HIGH (LogKOW = 6.1)
dotriacontane	LOW (LogKOW = 16.0566)
eicosane	LOW (LogKOW = 10.1634)
hexacosane	LOW (LogKOW = 13.11)
hexadecane	LOW (LogKOW = 8.199)
hexatriacontane	LOW (LogKOW = 18.021)
octacosane	LOW (LogKOW = 14.0922)
octadecane	LOW (LogKOW = 9.1812)
n-octane	HIGH (LogKOW = 5.18)

Continued...

octatriacontane	LOW (LogKOW = 19.0032)
tetracontane	LOW (LogKOW = 19.9854)
tetracosane	LOW (LogKOW = 12.1278)
tetradecane	HIGH (BCF = 42153)
tetratriacontane	LOW (LogKOW = 17.0388)
triacontane	LOW (LogKOW = 15.0744)

Mobility in soil

Ingredient	**Mobility**
n-hexane	LOW (KOC = 149)
n-decane	LOW (KOC = 1724)
docosane	LOW (KOC = 2671000)
n-dodecane	LOW (KOC = 5864)
dotriacontane	LOW (KOC = 1217000000)
eicosane	LOW (KOC = 785200)
hexacosane	LOW (KOC = 30910000)
hexadecane	LOW (KOC = 67860)
hexatriacontane	LOW (KOC = 10000000000)
octacosane	LOW (KOC = 105100000)
octadecane	LOW (KOC = 230800)
n-octane	LOW (KOC = 506.7)
octatriacontane	LOW (KOC = 10000000000)
tetracontane	LOW (KOC = 10000000000)
tetracosane	LOW (KOC = 9086000)
tetradecane	LOW (KOC = 19950)
tetratriacontane	LOW (KOC = 4139000000)
triacontane	LOW (KOC = 357700000)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	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. A Hierarchy of Controls seems to be common - the user should investigate: ▸ Reduction ▸ Reuse ▸ Recycling ▸ Disposal (if all else fails) 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. ▸ **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. ▸ 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 land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). ▸ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO

Land transport (DOT)

UN number	1208
UN proper shipping name	Hexanes

Continued...

<table>
<tr><td>Transport hazard class(es)</td><td><table><tr><td>Class</td><td>3</td></tr><tr><td>Subrisk</td><td>Not Applicable</td></tr></table></td></tr>
<tr><td>Packing group</td><td>II</td></tr>
<tr><td>Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>Special precautions for user</td><td><table><tr><td>Hazard Label</td><td>3</td></tr><tr><td>Special provisions</td><td>IB2, T4, TP1</td></tr></table></td></tr>
</table>

Air transport (ICAO-IATA / DGR)

<table>
<tr><td>UN number</td><td>1208</td></tr>
<tr><td>UN proper shipping name</td><td>Hexanes</td></tr>
<tr><td>Transport hazard class(es)</td><td><table><tr><td>ICAO/IATA Class</td><td>3</td></tr><tr><td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr><tr><td>ERG Code</td><td>3H</td></tr></table></td></tr>
<tr><td>Packing group</td><td>II</td></tr>
<tr><td>Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>Special precautions for user</td><td><table><tr><td>Special provisions</td><td>Not Applicable</td></tr><tr><td>Cargo Only Packing Instructions</td><td>364</td></tr><tr><td>Cargo Only Maximum Qty / Pack</td><td>60 L</td></tr><tr><td>Passenger and Cargo Packing Instructions</td><td>353</td></tr><tr><td>Passenger and Cargo Maximum Qty / Pack</td><td>5 L</td></tr><tr><td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y341</td></tr><tr><td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>1 L</td></tr></table></td></tr>
</table>

Sea transport (IMDG-Code / GGVSee)

<table>
<tr><td>UN number</td><td>1208</td></tr>
<tr><td>UN proper shipping name</td><td>HEXANES</td></tr>
<tr><td>Transport hazard class(es)</td><td><table><tr><td>IMDG Class</td><td>3</td></tr><tr><td>IMDG Subrisk</td><td>Not Applicable</td></tr></table></td></tr>
<tr><td>Packing group</td><td>II</td></tr>
<tr><td>Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>Special precautions for user</td><td><table><tr><td>EMS Number</td><td>F-E, S-D</td></tr><tr><td>Special provisions</td><td>Not Applicable</td></tr><tr><td>Limited Quantities</td><td>1 L</td></tr></table></td></tr>
</table>

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

N-HEXANE(110-54-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...

US - Alaska Limits for Air Contaminants
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
US - California Permissible Exposure Limits for Chemical Contaminants
US - Hawaii Air Contaminant Limits
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Minnesota Permissible Exposure Limits (PELs)
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ACGIH Threshold Limit Values (TLV)
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

N-DECANE(124-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

DOCOSANE(629-97-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

N-DODECANE(112-40-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

DOTRIACONTANE(544-85-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

EICOSANE(112-95-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

HEXACOSANE(630-01-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

HEXADECANE(544-76-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

HEXATRIACONTANE(630-06-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

OCTACOSANE(630-02-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

OCTADECANE(593-45-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

N-OCTANE(111-65-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Alaska Limits for Air Contaminants
US - California Permissible Exposure Limits for Chemical Contaminants
US - Hawaii Air Contaminant Limits
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Minnesota Permissible Exposure Limits (PELs)
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ACGIH Threshold Limit Values (TLV)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

OCTATRIACONTANE(7194-85-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

TETRACONTANE(4181-95-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

TETRACOSANE(646-31-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

TETRADECANE(629-59-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

TETRATRIACONTANE(14167-59-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

TRIACONTANE(638-68-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Federal Regulations

Continued...

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	No
Delayed (chronic) health hazard	No
Fire hazard	Yes
Pressure hazard	No
Reactivity hazard	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Hexane	5000	2270

State Regulations

US. CALIFORNIA PROPOSITION 65

None Reported

National Inventory	Status
Australia - AICS	N (hexatriacontane; dotriacontane; tetratriacontane; octatriacontane; triacontane; tetracontane; hexacosane; octacosane)
Canada - DSL	N (tetratriacontane; octatriacontane; docosane; triacontane; tetracontane)
Canada - NDSL	N (hexatriacontane; dotriacontane; tetratriacontane; n-octane; octadecane; n-hexane; eicosane; hexacosane; octacosane; n-decane; n-dodecane; tetradecane; hexadecane; tetracosane)
China - IECSC	N (octatriacontane; tetracontane)
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (hexatriacontane; dotriacontane; tetratriacontane; octatriacontane; octadecane; docosane; triacontane; eicosane; tetracontane; hexacosane; octacosane; n-decane; n-dodecane; tetradecane; hexadecane; tetracosane)
Korea - KECI	N (tetracontane)
New Zealand - NZIoC	Y
Philippines - PICCS	N (hexatriacontane; dotriacontane; tetratriacontane; octatriacontane; triacontane; tetracontane; hexacosane; octacosane)
USA - TSCA	N (tetratriacontane)
Legend:	*Y = All ingredients are on the inventory* *N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

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.

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
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

end of SDS