HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane

Novachem Pty Ltd

Chemwatch Hazard Alert Code: 3

Version No: **1.1**
Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Issue Date: **18/05/2024**
Print Date: **18/05/2024**
S.GHS.AUS.EN

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

Product Identifier

Product name	HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane
Synonyms	Not Available
Proper shipping name	HEXANES
Other means of identification	DRE-A50000159HE

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

Relevant identified uses	Laboratory use

Details of the manufacturer or supplier of the safety data sheet

Registered company name	**Novachem Pty Ltd**	**Novachem Pty Ltd**
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255	+61384151255
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Website	www.novachem.com.au	www.novachem.com.au
Email	novachem@novachem.com.au	novachem@novachem.com.au

Emergency telephone number

Association / Organisation	**Victorian Poisons Information Centre**	**Victorian Poisons Information Centre**
Emergency telephone numbers	13 11 26	13 11 26
Other emergency telephone numbers	Not Available	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Flammable Liquids Category 2, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2
Legend:	***1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI***

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.

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H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statement(s) Disposal

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

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
110-54-3	80-100	n-hexane
1120-21-4	0.1-1	undecane
630-05-7	0.1-1	tritriacontane
629-50-5	0.1-1	tridecane
638-67-5	0.1-1	tricosane
638-68-6	0.1-1	triacontane
14167-59-0	0.1-1	tetratriacontane
629-59-4	0.1-1	tetradecane
646-31-1	0.1-1	tetracosane
4181-95-7	0.1-1	tetracontane
630-07-9	0.1-1	pentatriacontane
629-62-9	0.1-1	pentadecane
629-99-2	0.1-1	pentacosane
7194-85-6	0.1-1	octatriacontane
593-45-3	0.1-1	octadecane
630-02-4	0.1-1	octacosane
111-84-2	0.1-1	n-nonane
629-92-5	0.1-1	nonadecane
630-03-5	0.1-1	nonacosane
111-65-9	0.1-1	n-octane
7194-86-7	0.1-1	nonatriacontane
112-95-8	0.1-1	eicosane
630-06-8	0.1-1	hexatriacontane
544-76-3	0.1-1	hexadecane
630-01-3	0.1-1	hexacosane
7194-84-5	0.1-1	heptatriacontane
142-82-5	0.1-1	heptane
629-78-7	0.1-1	n-heptadecane

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CAS No	%[weight]	Name
593-49-7	0.1-1	heptacosane
630-04-6	0.1-1	hentriacontane
629-94-7	0.1-1	heneicosane
544-85-4	0.1-1	dotriacontane
112-40-3	0.1-1	n-dodecane
629-97-0	0.1-1	docosane
124-18-5	0.1-1	n-decane
Legend:	***1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available***	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact

If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

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.
- 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 or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

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.

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion,

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the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.
Following acute or short term repeated exposures to n-hexane:

- Large quantities of n-hexane are expired by the lungs after vapour exposure (50-60%). Humans exposed to 100 ppm demonstrate an n-hexane biological half life of 2 hours.
- Initial attention should be directed towards evaluation and support of respiration. Cardiac dysrhythmias are a potential complication.

INGESTION:

- Ipecac syrup should be considered for ingestion of pure hexane exceeding 2-3ml/kg. Extreme caution must be taken to avoid aspiration since small amounts of n-hexane intratracheally, produce a severe chemical pneumonitis.

[***Ellenhorn and Barceloux: Medical Toxicology***]
BIOLOGICAL EXPOSURE INDEX - BEI
BEIs represent the levels of determinants which are most likely to be observed in specimens collected in a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the Exposure Standard (ES or TLV).

Determinant	Index	Sampling Time	Comments
1. 2,5-hexanedione in urine	5 mg/gm creatinine	End of shift	NS
2. n-Hexane in end-exhaled air			SQ

NS: Non-specific determinant; Metabolite observed following exposure to other materials.
SQ: Semi-quantitative determinant; Interpretation may be ambiguous - should be used as a screening test or confirmatory test.

SECTION 5 Firefighting 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

Advice for firefighters

Fire Fighting	
Fire/Explosion Hazard	▸ Liquid and vapour are highly flammable. ▸ Severe fire hazard when exposed to heat, flame and/or oxidisers. ▸ Vapour may travel a considerable distance to source of ignition. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. Combustion products include: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. May emit clouds of acrid smoke
HAZCHEM	3YE

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.
Major Spills	▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves. ▸ Prevent, by any means available, spillage from entering drains or water course.

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

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. ▸ 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. ▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps.

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	▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	▸ Store in original containers in approved flame-proof area. ▸ No smoking, naked lights, heat or ignition sources. ▸ **DO NOT** store in pits, depression, basement or areas where vapours may be trapped. ▸ Keep containers securely sealed.

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.
Storage incompatibility	Low molecular weight alkanes are a type of chemical compounds that can be found in gases or liquids. These alkanes: ▸ Can cause a dangerous reaction with strong oxidizers, chlorine, chlorine dioxide, and dioxygenyl tetrafluoroborate when there is oxygen and heat present. ▸ Are incompatible with halogens. ▸ Can create static charges due to their low conductivity, leading to an accumulation of static charge. ▸ 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
Australia Exposure Standards	n-hexane	Hexane (n-Hexane)	20 ppm / 72 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	n-nonane	Nonane	200 ppm / 1050 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	n-octane	Octane	300 ppm / 1400 mg/m3	1750 mg/m3 / 375 ppm	Not Available	Not Available
Australia Exposure Standards	heptane	Heptane (n-Heptane)	400 ppm / 1640 mg/m3	2050 mg/m3 / 500 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
n-hexane	260 ppm	Not Available	Not Available
undecane	2.3 ppm	26 ppm	150 ppm
tridecane	0.0073 ppm	0.08 ppm	2.3 ppm
tetradecane	3.1 ppm	34 ppm	200 ppm
pentatriacontane	30 mg/m3	330 mg/m3	2,000 mg/m3
pentadecane	1.3 ppm	15 ppm	87 ppm
octadecane	230 ppm	385 ppm	5,000 ppm
octacosane	230 ppm	385 ppm	5,000 ppm
n-nonane	600 ppm	830 ppm	5,000 ppm
nonacosane	30 mg/m3	330 mg/m3	2,000 mg/m3
n-octane	230 ppm	385 ppm	5000** ppm
hexadecane	35 mg/m3	380 mg/m3	2,800 mg/m3
heptane	500 ppm	830 ppm	5000* ppm
n-heptadecane	4.3 ppm	48 ppm	290 ppm
n-dodecane	1.7 ppm	18 ppm	110 ppm
n-decane	6.6 ppm	73 ppm	440 ppm

Ingredient	Original IDLH	Revised IDLH
n-hexane	1,100 ppm	Not Available
undecane	Not Available	Not Available
tritriacontane	Not Available	Not Available
tridecane	Not Available	Not Available
tricosane	Not Available	Not Available
triacontane	Not Available	Not Available
tetratriacontane	Not Available	Not Available
tetradecane	Not Available	Not Available
tetracosane	Not Available	Not Available
tetracontane	Not Available	Not Available
pentatriacontane	Not Available	Not Available
pentadecane	Not Available	Not Available

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Ingredient	Original IDLH	Revised IDLH
pentacosane	Not Available	Not Available
octatriacontane	Not Available	Not Available
octadecane	Not Available	Not Available
octacosane	Not Available	Not Available
n-nonane	Not Available	Not Available
nonadecane	Not Available	Not Available
nonacosane	Not Available	Not Available
n-octane	1,000 ppm	Not Available
nonatriacontane	Not Available	Not Available
eicosane	Not Available	Not Available
hexatriacontane	Not Available	Not Available
hexadecane	Not Available	Not Available
hexacosane	Not Available	Not Available
heptatriacontane	Not Available	Not Available
heptane	750 ppm	Not Available
n-heptadecane	Not Available	Not Available
heptacosane	Not Available	Not Available
hentriacontane	Not Available	Not Available
heneicosane	Not Available	Not Available
dotriacontane	Not Available	Not Available
n-dodecane	Not Available	Not Available
docosane	Not Available	Not Available
n-decane	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
undecane	E	≤ 0.1 ppm
tridecane	E	≤ 0.1 ppm
tricosane	E	≤ 0.01 mg/m³
tetradecane	E	≤ 0.1 ppm
octadecane	E	≤ 0.01 mg/m³
eicosane	E	≤ 0.01 mg/m³
hexadecane	E	≤ 0.1 ppm
hexacosane	E	≤ 0.01 mg/m³
n-heptadecane	E	≤ 0.01 mg/m³
n-dodecane	E	≤ 0.1 ppm
docosane	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.***	

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.

Individual protection measures, such as personal protective equipment

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- 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.

Skin protection

See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

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

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	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.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. ▸ 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.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
'Forsberg Clothing Performance Index'.
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
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Material	CPI
NITRILE	B
BUTYL	C
HYPALON	C
NATURAL RUBBER	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/CHLOROBUTYL	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as 'feel' or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the 'Exposure Standard' (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AX-AUS P2	-	AX-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AX-AUS / Class 1 P2	-
up to 100 x ES	-	AX-2 P2	AX-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, 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 degC)

- 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.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	colourless

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 (°C)**	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

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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	Not Available	**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 can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Concentrated nonane vapours may cause irritation of the nose and throat, headache, drowsiness, dizziness, confusion, nausea, tremors, incoordination and difficulty in breathing. Very high concentrations may cause unconsciousness and death. The odour of nitrous oxides is not easily detected. Nerve damage can be caused by some non-ring hydrocarbons. Symptoms are temporary, and include weakness, tremors, increased saliva, some convulsions, excessive tears with discolouration and inco-ordination lasting up to 24 hours. 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. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) 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. Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Skin exposure to isoparaffins may produce slight to moderate irritation in animals and humans. Rare sensitisation reactions in humans have occurred. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.
Eye	Instillation of isoparaffins into rabbit eyes produces only slight irritation. Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Implantation studies in rats show that paraffin oils may cause tumours. As a general rule, the highly refined paraffins are believed to contain less suspect polyaromatic hydrocarbons than less refined grades or waxes derived from napthenic base-stocks. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation. gamma-diketones are generally toxic to the nervous system. They can occur as commercial products or as metabolic products.

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HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane

TOXICITY	IRRITATION
Not Available	Not Available

n-hexane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye(rabbit): 10 mg - mild
Inhalation (Rat) LC50: 48000 ppm4h[2]	
Oral (Rat) LD50: 28710 mg/kg[2]	

undecane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >=3160 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

tritriacontane

TOXICITY	IRRITATION
Not Available	Not Available

tridecane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[2]	Not Available
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	
Oral (Rat) LD50: >5000 mg/kg[2]	

tricosane

TOXICITY	IRRITATION
Not Available	Not Available

triacontane

TOXICITY	IRRITATION
Not Available	Not Available

tetratriacontane

TOXICITY	IRRITATION
Not Available	Not Available

tetradecane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >=3160 mg/kg[1]	Not Available
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	

tetracosane

TOXICITY	IRRITATION
Not Available	Not Available

tetracontane

TOXICITY	IRRITATION
Not Available	Not Available

pentatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

pentadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

pentacosane

TOXICITY	IRRITATION
Not Available	Not Available

Continued...

octatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

octadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >5.266 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

octacosane

TOXICITY	IRRITATION
Not Available	Not Available

n-nonane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: 3200 ppm4h[2]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

nonadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >1700 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
dermal (rat) LD50: >2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]
dermal (rat) LD50: >2000 mg/kg[1]	
dermal (rat) LD50: >2000 mg/kg[1]	
Inhalation (Rat) LC50: >1-5 mg/l4h[1]	
Inhalation (Rat) LC50: >5.28 mg/l4h[1]	
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	
Oral (Rat) LD50: >4150 mg/kg[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	

nonacosane

TOXICITY	IRRITATION
Not Available	Not Available

n-octane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

nonatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

eicosane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

hexatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

hexadecane

TOXICITY	IRRITATION

Continued...

dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	Skin (g.pig): 100 mg/24h-SEVERE
Oral (Rat) LD50: >5000 mg/kg[1]	Skin (man): 50 mg/48h-SEVERE
	Skin (pig): 50 mg/24h-SEVERE
	Skin (rabbit): 100 mg/24h-SEVERE
	Skin (rat): 100 mg/24h - SEVERE
	Skin: no adverse effect observed (not irritating)[1]

hexacosane

TOXICITY	IRRITATION
Not Available	Not Available

heptatriacontane

TOXICITY	IRRITATION
Not Available	Not Available

heptane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >29.29 mg/l4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

n-heptadecane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >5.991 mg/L4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

heptacosane

TOXICITY	IRRITATION
Not Available	Not Available

hentriacontane

TOXICITY	IRRITATION
Not Available	Not Available

heneicosane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Not Available
Inhalation (Rat) LC50: >1-5 mg/l4h[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	

dotriacontane

TOXICITY	IRRITATION
Not Available	Not Available

n-dodecane

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >=3160 mg/kg[1]	Not Available
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	
Oral (Rat) LD50: >5000 mg/kg[1]	

docosane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
Inhalation (Rat) LC50: >1-5 mg/l4h[1]	Skin: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >5000 mg/kg[1]	

n-decane

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[2]	Not Available
Inhalation (Rat) LC50: >=6.1 mg/L4h[1]	

Continued...

	Oral (Rat) LD50: >5000 mg/kg[1]	

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. Repeated or prolonged exposure to irritants may produce conjunctivitis.
N-OCTANE	Oral (rat) LD50: 5630 mg/kg* [CCINFO] Nil reported
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. Repeated exposures may produce severe ulceration.
N-DODECANE	Equivocal tumorigen by RTECS criteria.
HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane & UNDECANE & TRIDECANE & TRICOSANE & TETRADECANE & OCTADECANE & N-NONANE & HEXADECANE & N-DODECANE & DOCOSANE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane & UNDECANE & TRIDECANE & TRICOSANE & TETRADECANE & TETRACOSANE & PENTADECANE & PENTACOSANE & OCTADECANE & OCTACOSANE & N-NONANE & NONADECANE & EICOSANE & HEXADECANE & HEXACOSANE & N-HEPTADECANE & HEPTACOSANE & HENEICOSANE & N-DODECANE & DOCOSANE & N-DECANE	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. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell.
UNDECANE & TRIDECANE & TETRADECANE & PENTADECANE & N-NONANE & HEXADECANE & N-DODECANE & N-DECANE	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. Cerebellar damage was found on autopsy in some animals. It appears that exposure may possibly damage the central nervous system.
TRITRIACONTANE & TRICOSANE & TRIACONTANE & TETRATRIACONTANE & TETRADECANE & TETRACOSANE & TETRACONTANE & PENTACOSANE & OCTATRIACONTANE & OCTADECANE & OCTACOSANE & NONADECANE & NONACOSANE & NONATRIACONTANE & EICOSANE & HEXATRIACONTANE & HEXACOSANE & HEPTATRIACONTANE & N-HEPTADECANE & HEPTACOSANE & HENTRIACONTANE & HENEICOSANE & N-DODECANE & DOCOSANE & N-DECANE	No significant acute toxicological data identified in literature search.
TRITRIACONTANE & TRICOSANE & TRIACONTANE & TETRATRIACONTANE & TETRACOSANE & TETRACONTANE & PENTATRIACONTANE & PENTACOSANE & OCTATRIACONTANE & OCTADECANE & OCTACOSANE & NONADECANE & NONACOSANE &	'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. Refined waxes are used widely in cosmetic surgery over many years and this demonstrates their low toxicity; many guidelines exist for their safe use. However, occasionally there are reports of adverse effects with these products. Deposits under the skin, referred to as “paraffinoma” have been described, but these are not normally associated with other progressive changes. Long-term toxicity studies indicated that petroleum-derived paraffin and microcrystalline waxes are non-toxic and do not cause cancer.

Continued...

NONATRIACONTANE & EICOSANE & HEXATRIACONTANE & HEXACOSANE & HEPTATRIACONTANE & N-HEPTADECANE & HEPTACOSANE & HENTRIACONTANE & HENEICOSANE & DOTRIACONTANE & DOCOSANE			
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***

SECTION 12 Ecological information

Toxicity

HJ 894-2017 C7 to C40 n-Alkanes Mixture 159 1000 µg/mL in n-Hexane

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

n-hexane

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	113mg/L	4
EC50(ECx)	4h	Algae or other aquatic plants	0.12mg/L	4

undecane

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	>0.002mg/l	2
EC50(ECx)	48h	Crustacea	>0.002mg/l	2

tritriacontane

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

tridecane

Endpoint	Test Duration (hr)	Species	Value	Source
EC50(ECx)	48h	Crustacea	>0.002mg/l	2
EC50	48h	Crustacea	>0.002mg/l	2

tricosane

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

triacontane

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

tetratriacontane

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

tetradecane

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	72h	Algae or other aquatic plants	0.002mg/l	1
EC50	48h	Crustacea	>0.002mg/l	2

tetracosane

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

tetracontane

Endpoint	Test Duration (hr)	Species	Value	Source

Continued...

	Not Available	Not Available	Not Available	Not Available	Not Available

pentatriacontane

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

pentadecane

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1344h	Fish	6.8-20.4	7

pentacosane

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

octatriacontane

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

octadecane

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

octacosane

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

n-nonane

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	0.4mg/l	2
NOEC(ECx)	504h	Crustacea	0.17mg/l	2
LC50	96h	Fish	0.11mg/l	2

nonadecane

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

nonacosane

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

n-octane

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	0.11mg/l	2
EC50	48h	Crustacea	0.4mg/l	2
EC50(ECx)	9h	Algae or other aquatic plants	0.001mg/L	4

nonatriacontane

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

eicosane

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

hexatriacontane

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

hexadecane

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1344h	Fish	5-42.4	7

hexacosane

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

heptatriacontane

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

Continued...

heptane

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	0.11mg/l	2
EC50	48h	Crustacea	0.4mg/l	2
NOEC(ECx)	504h	Crustacea	0.17mg/l	2

n-heptadecane

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

heptacosane

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

hentriacontane

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

heneicosane

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

dotriacontane

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

n-dodecane

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	>0.002mg/l	2
EC50(ECx)	48h	Crustacea	>0.002mg/l	2

docosane

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	>389mg/L	4
NOEC(ECx)	48h	Crustacea	<68mg/L	4
EC50	96h	Algae or other aquatic plants	>500mg/L	4

n-decane

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	>365mg/L	4
EC50	48h	Crustacea	>0.002mg/l	2
EC50(ECx)	48h	Crustacea	>0.002mg/l	2
EC50	96h	Algae or other aquatic plants	89mg/l	4

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***

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
When released in the environment, alkanes don't undergo rapid biodegradation, because they have no functional groups (like hydroxyl or carbonyl) that are needed by most organisms in order to metabolize the compound.
However, some bacteria can metabolise some alkanes (especially those linear and short), by oxidizing the terminal carbon atom. The product is an alcohol, that could be next oxidised to an aldehyde, and finally to a carboxylic acid. The resulting fatty acid could be metabolised through the fatty acid degradation pathway.
For n-Heptane: Log Kow: 4.66; Koc: 2400-8100; Half-life (hr) Air: 52.8; Half-life (hr) Surface Water: 2.9-312; Henry's atm m3 /mol: 2.06; BOD 5 (if unstated): 1.92; COD: 0.06; BCF: 340-2000; Log BCF: 2.53-3.31.
Atmospheric Fate: Breakdown of n-heptane by sunlight is not expected to be an important fate process. If released to the atmosphere, n-heptane is expected to exist entirely in the vapor phase, in ambient air. Reactions hydroxyl radicals in the atmosphere have been shown to be important.
For n-Hexane: Log Kow: 3.17-3.94; Henry s Law Constant: 1.69 atm-m3 mol; Vapor Pressure: 150 mm Hg @ 25 C; Log Koc: 2.90 to 3.61. BOD 5, (if unstated): 2.21; COD: 0.04; ThOD: 3.52.
Atmospheric Fate: n-Hexane is not expected to be directly broken down by sunlight. The main atmospheric removal mechanism is through reactions with hydroxyl radicals, with an approximant half-life of 2.9 days.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-hexane	LOW	LOW
undecane	LOW	LOW
tritriacontane	LOW	LOW

Continued...

Ingredient	Persistence: Water/Soil	Persistence: Air
tridecane	LOW	LOW
tricosane	LOW	LOW
triacontane	LOW	LOW
tetratriacontane	HIGH	HIGH
tetradecane	LOW	LOW
tetracosane	LOW	LOW
tetracontane	HIGH	HIGH
pentatriacontane	HIGH	HIGH
pentadecane	LOW	LOW
pentacosane	LOW	LOW
octatriacontane	HIGH	HIGH
octadecane	LOW	LOW
octacosane	LOW	LOW
n-nonane	LOW	LOW
nonadecane	LOW	LOW
nonacosane	LOW	LOW
n-octane	LOW	LOW
nonatriacontane	HIGH	HIGH
eicosane	LOW	LOW
hexatriacontane	HIGH	HIGH
hexadecane	LOW	LOW
hexacosane	LOW	LOW
heptatriacontane	HIGH	HIGH
heptane	LOW	LOW
n-heptadecane	LOW	LOW
heptacosane	LOW	LOW
hentriacontane	LOW	LOW
heneicosane	LOW	LOW
dotriacontane	LOW	LOW
n-dodecane	LOW	LOW
docosane	LOW	LOW
n-decane	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
n-hexane	MEDIUM (LogKOW = 3.9)
undecane	HIGH (LogKOW = 5.7435)
tritriacontane	LOW (LogKOW = 16.5477)
tridecane	HIGH (LogKOW = 6.7257)
tricosane	LOW (LogKOW = 11.6367)
triacontane	LOW (LogKOW = 15.0744)
tetratriacontane	LOW (LogKOW = 17.0388)
tetradecane	HIGH (BCF = 42153)
tetracosane	LOW (LogKOW = 12.1278)
tetracontane	LOW (LogKOW = 19.9854)
pentatriacontane	LOW (LogKOW = 17.5299)
pentadecane	LOW (BCF = 41.4)
pentacosane	LOW (LogKOW = 12.6189)
octatriacontane	LOW (LogKOW = 19.0032)
octadecane	LOW (LogKOW = 9.1812)
octacosane	LOW (LogKOW = 14.0922)
n-nonane	HIGH (LogKOW = 4.7613)
nonadecane	LOW (LogKOW = 9.6723)
nonacosane	LOW (LogKOW = 14.5833)
n-octane	HIGH (LogKOW = 5.18)
nonatriacontane	LOW (LogKOW = 19.4943)
eicosane	LOW (LogKOW = 10.1634)
hexatriacontane	LOW (LogKOW = 18.021)

Continued...

Ingredient	Bioaccumulation
hexadecane	LOW (BCF = 47.9)
hexacosane	LOW (LogKOW = 13.11)
heptatriacontane	LOW (LogKOW = 18.5121)
heptane	HIGH (LogKOW = 4.66)
n-heptadecane	LOW (LogKOW = 8.6901)
heptacosane	LOW (LogKOW = 13.6011)
hentriacontane	LOW (LogKOW = 15.5655)
heneicosane	LOW (LogKOW = 10.6545)
dotriacontane	LOW (LogKOW = 16.0566)
n-dodecane	HIGH (LogKOW = 6.1)
docosane	LOW (LogKOW = 11.1456)
n-decane	HIGH (BCF = 3636)

Mobility in soil

Ingredient	Mobility
n-hexane	LOW (Log KOC = 149)
undecane	LOW (Log KOC = 3179)
tritriacontane	LOW (Log KOC = 2244000000)
tridecane	LOW (Log KOC = 10820)
tricosane	LOW (Log KOC = 4926000)
triacontane	LOW (Log KOC = 357700000)
tetratriacontane	LOW (Log KOC = 4139000000)
tetradecane	LOW (Log KOC = 19950)
tetracosane	LOW (Log KOC = 9086000)
tetracontane	LOW (Log KOC = 10000000000)
pentatriacontane	LOW (Log KOC = 7634000000)
pentadecane	LOW (Log KOC = 36790)
pentacosane	LOW (Log KOC = 16760000)
octatriacontane	LOW (Log KOC = 10000000000)
octadecane	LOW (Log KOC = 230800)
octacosane	LOW (Log KOC = 105100000)
n-nonane	LOW (Log KOC = 934.6)
nonadecane	LOW (Log KOC = 425700)
nonacosane	LOW (Log KOC = 193900000)
n-octane	LOW (Log KOC = 506.7)
nonatriacontane	LOW (Log KOC = 10000000000)
eicosane	LOW (Log KOC = 785200)
hexatriacontane	LOW (Log KOC = 10000000000)
hexadecane	LOW (Log KOC = 67860)
hexacosane	LOW (Log KOC = 30910000)
heptatriacontane	LOW (Log KOC = 10000000000)
heptane	LOW (Log KOC = 274.7)
n-heptadecane	LOW (Log KOC = 125200)
heptacosane	LOW (Log KOC = 57010000)
hentriacontane	LOW (Log KOC = 659700000)
heneicosane	LOW (Log KOC = 1448000)
dotriacontane	LOW (Log KOC = 1217000000)
n-dodecane	LOW (Log KOC = 5864)
docosane	LOW (Log KOC = 2671000)
n-decane	LOW (Log KOC = 1724)

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

Continued...

- 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.

- **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.

SECTION 14 Transport information

Labels Required

Marine Pollutant

HAZCHEM 3YE

Land transport (ADG)

14.1. **UN number or ID number**	1208
14.2. **UN proper shipping name**	HEXANES
14.3. **Transport hazard class(es)**	Class: 3 Subsidiary Hazard: Not Applicable
14.4. **Packing group**	II
14.5. **Environmental hazard**	Environmentally hazardous
14.6. **Special precautions for user**	Special provisions: Not Applicable Limited quantity: 1 L

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1208
14.2. **UN proper shipping name**	Hexanes
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 3 ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: 3H
14.4. **Packing group**	II
14.5. **Environmental hazard**	Environmentally hazardous
14.6. **Special precautions for user**	Special provisions: Not Applicable Cargo Only Packing Instructions: 364 Cargo Only Maximum Qty / Pack: 60 L Passenger and Cargo Packing Instructions: 353 Passenger and Cargo Maximum Qty / Pack: 5 L Passenger and Cargo Limited Quantity Packing Instructions: Y341 Passenger and Cargo Limited Maximum Qty / Pack: 1 L

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	1208
14.2. **UN proper shipping name**	HEXANES
	IMDG Class: 3

Continued...

14.3. **Transport hazard class(es)**	IMDG Subsidiary Hazard	Not Applicable
14.4. **Packing group**	II	
14.5 **Environmental hazard**	Marine Pollutant	
14.6. **Special precautions for user**	EMS Number	F-E , S-D
	Special provisions	Not Applicable
	Limited Quantities	1 L

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
n-hexane	Not Available
undecane	Not Available
tritriacontane	Not Available
tridecane	Not Available
tricosane	Not Available
triacontane	Not Available
tetratriacontane	Not Available
tetradecane	Not Available
tetracosane	Not Available
tetracontane	Not Available
pentatriacontane	Not Available
pentadecane	Not Available
pentacosane	Not Available
octatriacontane	Not Available
octadecane	Not Available
octacosane	Not Available
n-nonane	Not Available
nonadecane	Not Available
nonacosane	Not Available
n-octane	Not Available
nonatriacontane	Not Available
eicosane	Not Available
hexatriacontane	Not Available
hexadecane	Not Available
hexacosane	Not Available
heptatriacontane	Not Available
heptane	Not Available
n-heptadecane	Not Available
heptacosane	Not Available
hentriacontane	Not Available
heneicosane	Not Available
dotriacontane	Not Available
n-dodecane	Not Available
docosane	Not Available
n-decane	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
n-hexane	Not Available
undecane	Not Available
tritriacontane	Not Available
tridecane	Not Available
tricosane	Not Available
triacontane	Not Available
tetratriacontane	Not Available
tetradecane	Not Available
tetracosane	Not Available

Continued...

Product name	Ship Type
tetracontane	Not Available
pentatriacontane	Not Available
pentadecane	Not Available
pentacosane	Not Available
octatriacontane	Not Available
octadecane	Not Available
octacosane	Not Available
n-nonane	Not Available
nonadecane	Not Available
nonacosane	Not Available
n-octane	Not Available
nonatriacontane	Not Available
eicosane	Not Available
hexatriacontane	Not Available
hexadecane	Not Available
hexacosane	Not Available
heptatriacontane	Not Available
heptane	Not Available
n-heptadecane	Not Available
heptacosane	Not Available
hentriacontane	Not Available
heneicosane	Not Available
dotriacontane	Not Available
n-dodecane	Not Available
docosane	Not Available
n-decane	Not Available

SECTION 15 Regulatory information

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

n-hexane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

undecane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

tritriacontane is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

tridecane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

tricosane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

triacontane is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

tetratriacontane is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

tetradecane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

tetracosane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

tetracontane is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

pentatriacontane is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Continued...

pentadecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

pentacosane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

octatriacontane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

octadecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

octacosane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

n-nonane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

nonadecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

nonacosane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

n-octane is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

nonatriacontane is found on the following regulatory lists
Not Applicable

eicosane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

hexatriacontane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

hexadecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

hexacosane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

heptatriacontane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

heptane is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

n-heptadecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

heptacosane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

hentriacontane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

heneicosane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

dotriacontane is found on the following regulatory lists
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

n-dodecane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

docosane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

n-decane is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

Continued...

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (tritriacontane; triacontane; tetratriacontane; tetracontane; pentatriacontane; pentacosane; octatriacontane; octacosane; nonacosane; nonatriacontane; hexatriacontane; hexacosane; heptatriacontane; heptacosane; hentriacontane; dotriacontane)
Canada - DSL	No (tritriacontane; tridecane; tricosane; triacontane; tetratriacontane; tetracontane; pentatriacontane; pentadecane; pentacosane; octatriacontane; nonadecane; nonacosane; nonatriacontane; heptatriacontane; n-heptadecane; heptacosane; hentriacontane; heneicosane; docosane)
Canada - NDSL	No (n-hexane; undecane; tritriacontane; tetratriacontane; tetradecane; tetracosane; pentatriacontane; octadecane; octacosane; n-nonane; n-octane; nonatriacontane; eicosane; hexatriacontane; hexadecane; hexacosane; heptane; heptacosane; hentriacontane; dotriacontane; n-dodecane; n-decane)
China - IECSC	No (tritriacontane; tetracontane; octatriacontane; nonacosane; nonatriacontane; heptatriacontane; hentriacontane)
Europe - EINEC / ELINCS / NLP	No (tritriacontane; pentatriacontane; nonatriacontane; hentriacontane)
Japan - ENCS	No (tritriacontane; triacontane; tetratriacontane; tetracontane; pentatriacontane; octatriacontane; nonatriacontane; hexatriacontane; heptatriacontane; hentriacontane; dotriacontane)
Korea - KECI	No (tritriacontane; tetracontane; pentatriacontane; nonatriacontane; hentriacontane)
New Zealand - NZIoC	No (tritriacontane; pentatriacontane; nonacosane; nonatriacontane; heptatriacontane; heptacosane; hentriacontane)
Philippines - PICCS	No (tritriacontane; triacontane; tetratriacontane; tetracontane; pentatriacontane; pentacosane; octatriacontane; octacosane; nonacosane; nonatriacontane; hexatriacontane; hexacosane; heptatriacontane; heptacosane; hentriacontane; dotriacontane)
USA - TSCA	No (tritriacontane; tetratriacontane; pentatriacontane; nonatriacontane; heptacosane; hentriacontane)
Taiwan - TCSI	Yes
Mexico - INSQ	No (tritriacontane; tricosane; triacontane; tetratriacontane; tetradecane; tetracosane; tetracontane; pentatriacontane; pentadecane; pentacosane; octatriacontane; octacosane; nonadecane; nonacosane; nonatriacontane; eicosane; hexatriacontane; hexadecane; hexacosane; heptatriacontane; n-heptadecane; heptacosane; hentriacontane; heneicosane; dotriacontane; docosane)
Vietnam - NCI	No (tritriacontane; tetratriacontane; pentatriacontane; pentacosane; octatriacontane; nonatriacontane; hexatriacontane; heptatriacontane; heptacosane; hentriacontane)
Russia - FBEPH	No (tritriacontane; tricosane; triacontane; tetratriacontane; tetracosane; tetracontane; pentatriacontane; pentacosane; octatriacontane; octadecane; octacosane; nonadecane; nonacosane; nonatriacontane; eicosane; hexatriacontane; heptatriacontane; heptacosane; hentriacontane; heneicosane; docosane)
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	18/05/2024
Initial Date	18/05/2024

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
- 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

- 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

Continued...

- 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

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end of SDS