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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Hexadecane, 99%
Code H 1325

2.Hazard identification
2.1Classification of the substance or mixture
Aspiration hazard, Category 1
2.2GHS label elements, including precautionary statements
Pictogram(s)

Signal word	Danger
Hazard statement(s)	H304 May be fatal if swallowed and enters airways
Precautionary statement(s)	
Prevention	none
Response	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/\u2026 P331 Do NOT induce vomiting.
Storage	P405 Store locked up.
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Hexadecane	Hexadecane	544-76-3	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2Most important symptoms/effects, acute and delayed
ACUTE/CHRONIC HAZARDS: Flammable.
4.3Indication of immediate medical attention and special treatment needed, if necessary
Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Aliphatic hydrocarbons and related compounds/

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2Specific hazards arising from the chemical
Combustible.
5.3Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
6.3Methods and materials for containment and cleaning up
ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.; Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.; Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic. Handle and store under inert gas.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
no data available
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	colourless liquid
Colour	Colorless liquid
Odour	Odorless (without any specific odor)
Melting point/ freezing point	250\u00b0C(dec.)(lit.)
Boiling point or initial boiling point and boiling range	287\u00b0C(lit.)
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	135\u00b0C
Auto-ignition temperature	201.67\u00b0C
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	3.474 mPa s at 20\u00b0C
Solubility	In water, 2.1X10-5 mg/L at 25\u00b0C
Partition coefficient n-octanol/water (log value)	log Kow = 8.20 (est)
Vapour pressure	1 mm Hg (105.3 \u00b0C)
Density and/or relative density	0.773g/mLat 25\u00b0C(lit.)
Relative vapour density	7.8 (vs air)
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity

no data available
10.2Chemical stability
Stable under recommended storage conditions.
10.3Possibility of hazardous reactions
Saturated aliphatic hydrocarbons, such as N-HEXADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.
10.4Conditions to avoid
no data available
10.5Incompatible materials
Incompatible materials: Strong oxidizing agents.
10.6Hazardous decomposition products
When heated to decomposition it emits acrid smoke and irritating vapors.

11.Toxicological information
Acute toxicity
Oral: no data available
Inhalation: no data available
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
no data available
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity
Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2Persistence and degradability
Degradation in seawater by oil oxidizing microorganisms: 59.2% breakdown after 21 days at 22\u00b0C in stoppered bottles containing 1000 ppm mixtues of alkanes, cycloalkanes and aromatics.
12.3Bioaccumulative potential
An estimated BCF of 870 was calculated in fish for hexadecane(SRC), using a estimated log Kow of 8.20(1) and a regression-derived equation(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is high, provided the compound is not metabolized by the organism(SRC). A BCF range of 5.0-47.9 was derived using carp (Cyprinus carpio) which were exposed over an 8-week period to levels of 0.2 and 2.0 ppm hexadecane(3). However, the derived BCF in carp failed to correct for the actual solubility of n-hexadecane(4) which would yield a much higher BCF(SRC). In an 8-hr exposure study, the BCF for hexadecane in mussels (Mytilus edulis) was reported to be less than 1(5), but again the reported BCF was not corrected for the actual solubility of hexadecane(SRC).
12.4Mobility in soil
Using a structure estimation method based on molecular connectivity indices(1), the Koc of hexadecane can be estimated to be 53,000(SRC). According to a classification scheme(2), this estimated Koc value suggests that hexadecane is expected to be immobile in soil(SRC). From the experimental value of Freundlich adsorption constants and organic carbon contents in three Canadian soils (Wendover 16.2% OC; Vaudreil 10.0% OC; Grimsby 1.0% OC)(3), Koc values can be estimated to be in the range of approximately 50-400(SRC). The experimental data of other investigators suggest that less than 20% of hexadecane from solution is adsorbed in soil, sludge and sediment(4-6). However, in all the adsorption experiments(3-6), the concentration of hexadecane solution used for the adsorption study far exceeded the aqueous solubility of hexadecane making the results questionable(SRC).
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal methods

Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information
14.1UN Number
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.2UN Proper Shipping Name
ADR/RID: unknown
IMDG: unknown
IATA: unknown
14.3Transport hazard class(es)
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.4Packing group, if applicable
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.5Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Hexadecane	Hexadecane	544-76-3	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.