LIVINGSTONE INTERNATIONAL PTY LTD
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SAFETY DATA SHEET

Product Code: CSHA018-500M

SECTION 1 PRODUCT IDENTIFICATION

GHS Product Identifier HEXANE FRACTION

Recommended use of the chemical and restrictions on use

Solvent for adhesive manufacturer and oil seed extraction.

Other Names
HEXANE FRACTION
HEXANE FRACTION AR

SECTION 2 HAZARD IDENTIFICATION

GHS Classification of the Substance/Mixture
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
Aspiration Hazard: Category 2
Flammable Liquids: Category 1
Specific target organ toxicity - Repeated Exposure Category 2
Skin Corrosion/Irritation: Category 2
Specific target organ toxicity - Single Exposure Category 3
Toxic to Reproduction: Category 2

Signal Word(s) DANGER

Hazard Statement(s)
H224 Extremely flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs lungs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Pictogram (s)

Flame Exclamation Mark Health Hazard Environment

Precautionary Statement – Prevention
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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Precautionary Statement – Response

Swallowed
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
Skin
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
Inhaled
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
Fire
P370+P378 In case of fire: Use dry foam, dry chemical, CO_2 or water spray for extinction.

Precautionary Statement – Storage

P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 Store locked up.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization

Liquid

Information on Composition

Ingredients	CAS Number
Other isomers	
n-Hexane	110-54-3

SECTION 4 FIRST AID MEASURES

Inhalation

If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.

Ingestion

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Skin

Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
Clothing wet with product should be soaked with water before removing to prevent the possibility of ignition by static discharges.

Eye Contact

Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

First Aid Facilities

Maintain eyewash fountain and safety shower in work area.

Advice to Doctor

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information

For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

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SECTION 5 FIRE FIGHTING MEASURES

Specific Methods	Caution: Use of water spray when fighting fire may be inefficient. Small fire: Use foam, dry chemical, CO_2 or water spray. Large fire: Use foam, fog or water spray - Do not use water jets. If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.
Specific Hazards Arising from the Chemical	HIGHLY FLAMMABLE: Product has a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures. Vapour will form explosive mixtures with air. Vapour will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Liquid is lighter than water. Vapour is heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.
Hazchem Code	3YE
Precautions in Connection with Fire	SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spills and Disposal	ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours. Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
Personal Precautions	Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.
Clean-up Methods - Large Spillages	Seek expert advice on handling and disposal.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling	Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Take precautionary measures against static discharges. All electrical equipment must be flameproofed. Avoid generation of vapours/aerosols. Work under hood.
Conditions for Safe Storage, Including any Incompatibilities	Store away from oxidizing agents. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Store at room temperature (15 - 25 °C). Store away from foodstuffs. Store small containers in suitable flammable liquid storage cabinets. Larger drums (200L) must be kept in purpose-built stores.
Storage Regulations	Refer Australian Standard AS 1940-2004 'The storage and handling of flammable and combustible liquids'. Refer Australian Standard AS/NZS 2243.10:2004 'Safety in laboratories - Storage of chemicals'.

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SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limit Values

Name	STEL		TWA		Footnote
	mg/m³	ppm	mg/m³	ppm	
n-Hexane			72	20	

Other Exposure Information

A time weighted average (TWA) has been established for n-hexane (Safe Work Australia) of 72 mg/m³, (20 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
A time weighted average (TWA) has been established for hexane, mixed isomers (Safe Work Australia) of 1,760 mg/m³, (500 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
A short term exposure limit (STEL) has been established for hexane, other isomers (Safe Work Australia) of 3,500 mg/m³, (1000 ppm). The exposure value at the STEL is the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

Appropriate Engineering Controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Respiratory Protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Hand Protection

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.

Personal Protective Equipment

Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.

Footwear

Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection

Flame retardant protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hygiene Measures

Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

SECTION 9 PHYSICAL/CHEMICAL PROPERTIES

Form Liquid

Appearance Clear, colourless, water-white, mobile liquid.

Odour Typical paraffinic odour.

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Melting Point	-94 °C
Boiling Point	IBP: 62.00 °C, FBP: 68.00 °C.
Solubility in Water	Immiscible with water.
Solubility in Organic Solvents	Soluble in alcohol, acetone, chloroform and ether.
Specific Gravity	0.67 @ 15 °C
pH	Neutral.
Vapour Pressure	16.60 kPa @ 15 °C
Vapour Density (Air=1)	2.79 @ 15 °C
Evaporation Rate	8.40
Odour Threshold	64 - 244 ppm.
Viscosity	0.326 mPa, 20 °C.
Volatile Component	100%
Partition Coefficient: n-octanol/water	Log P (o/w): 4.11
Flash Point	-22 °C (Open cup).
Flammability	Highly flammable.
Auto-Ignition Temperature	240 °C
Flammable Limits - Lower	1.2% v/v
Flammable Limits - Upper	7.5% v/v
Molecular Weight	86.18

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability	Stable under ordinary conditions of use and storage. Heat will contribute to instability.
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.
Incompatible Materials	Oxidising agents, halogens, combustible materials.
Hazardous Decomposition Products	Thermal decomposition products: oxides of carbon. May produce acrid smoke and irritating fumes when heated to decomposition.
Possibility of Hazardous Reactions	Explosive when mixed with oxidising agents.
Hazardous Polymerization	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

This substance should be treated with great care.

Acute Toxicity - Oral	LD50 (rat): 28710 mg/kg.
Acute Toxicity - Dermal	LD50 (rabbit): >2000 mg/kg.
Acute Toxicity - Inhalation	LC50 (rat): 171.6mg/l /4 h.

Ingestion	Harmful, may cause lung damage if swallowed. Moderately toxic. May cause gastrointestinal irritation, nausea, vomiting, cramping, CNS depression, headache, anaesthesia and coma. Tends to break up into a foam if the patient vomits. Upon aspiration into the lungs, chemical pneumonitis may develop.
Inhalation	Harmful: danger of serious damage to health by prolonged exposure through inhalation. May cause headache, dizziness and CNS depression. Irritating to respiratory system. Prolonged exposure may cause somnolence and narcosis.
Skin	Irritating to skin.
Eye	Irritating to eyes. Risk of corneal clouding.
Carcinogenicity	Not listed in the IARC Monographs.
Reproductive Toxicity	Evidence of reproductive effects. Subacute to chronic toxicity: An embryotoxic effect need not be feared when the threshold limit value is observed. Animal experiments suggest that the substance may lead to an impairment of reproductive performance also in man.
Chronic Effects	Repeated inhalation or skin exposure to n-Hexane has been noted to cause peripheral neuropathy in exposed individuals. Both sensory and motor nerve damage has been documented with long-term exposures of greater than 500 ppm. Cessation of exposure is not immediately followed by improvement and symptoms may even progress for two to three months. Final recovery may take more than one year depending on the severity of the intoxication, and may not always be complete. Concurrent exposure to n-Hexane and Methyl ethyl ketone (MEK) will accelerate the appearance of damage due to n-Hexane, although MEK alone will not cause the effect. Other isomers of hexane do not cause nerve damage. Repeated or prolonged skin contact may cause chronic dermatitis.
Serious Eye Damage/Irritation	Rabbit: Slight irritation.
Mutagenicity	No evidence of mutagenic effects.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity	May cause long-term adverse effects in the aquatic environment. Toxic for aquatic organisms. Nonmiscible with water. Substance floats on the water surface.
Persistence and Degradability	BOD: 2.21 g/g. COD: 0.04 g/g. TOD: 3.52 g/g.
Environmental Fate	Behaviour in environmental compartments: Distrubution: Log P(o/w): 4.11
Bioaccumulative Potential	Concentration in organisms possible. BCF: 242-453. An appreciable bioaccumulation potential is to be expected (log P(o/w) >3).
Other Precautions	Do not allow to enter waters, waste water, or soil!

SECTION 13 DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

SECTION 14 TRANSPORT INFORMATION

Dangerous Goods of Class 3 Flammable Liquids, are incompatible in a placard load with any of the following: - Class 1, Class 2.1, if both the Class 3 and Class 2.1, dangerous goods are in bulk, Class 2.3,Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane and Class 7.

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U.N. Number	1208
UN Proper Shipping Name	HEXANES
Transport Hazard Class(es)	3
Hazchem Code	3YE
Packaging Method	3.8.3
Packing Group	II
EPG Number	3A1
IERG Number	14

SECTION 15 REGULATORY INFORMATION

Listed in the Australian Inventory of Chemical Substances (AICS).

Poisons Schedule S5

SECTION 16 OTHER INFORMATION

Literature References

'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.
Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Substances Information System, 2005'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

Empirical Formula & Structural Formula C_6-H_{12}

END OF SDS