



TAG SOLVENT PRODUCTS (PTY)LTD.

MATERIAL SAFETY DATA SHEET ***HEXANE***

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common name	: Hexane
Supplier	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600
Trade name	: Hexane
Material uses	: Industrial applications: Manufacture of intermediates. Solvents for resins, fats, oils, fatty acids and hydrocarbons. Pharmaceutical industry: Manufacture of pharmaceutical products.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Name	Ingredients	CAS#	EINECS No.
Hexane	Distillates (petroleum) C6-rich	112-43-5	296-903-4

3 HAZARDS IDENTIFICATION

Physical state and appearance	: Liquid.
Emergency overview	: WARNING! HIGHLY FLAMMABLE LIQUID AND VAPOUR. EXPLOSIVE AIR/VAPOUR MIXTURES MAY FORM AT AMBIENT TEMPERATURES. Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Harmful if swallowed (aspiration hazard). Wash thoroughly after handling. Contains n-hexane; may be neurotoxic. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Routes of entry	: Eye contact. Ingestion. Inhalation. Skin contact.
Potential chronic health effects	: CARCINOGENIC EFFECTS: Not listed. MUTAGENIC EFFECTS: Not listed. TERATOGENIC EFFECTS: Not listed

4 *FIRST AID MEASURES*

Eye contact	: Check for and remove any contact lenses. Wash eyes thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.
Skin contact	: Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash under lying skin. In extreme situations with this product, drench with water, remove clothing as soon as possible and wash skin with soap and water. Seek medical advice if skin becomes red, swollen or painful.
Inhalation	: If exposure to vapour, mists or fumes causes drowsiness, headaches, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep the patient warm and at rest. If any symptoms persist obtain medical advice. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth-to-mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.
Ingestion	: If contamination of the mouth occurs, wash out thoroughly with water. Except as a deliberate act, the ingestion of large amounts of the product is unlikely. If it should occur, do not induce vomiting; obtain medical advice.
Medical advice	: Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be under taken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

5 *FIRE FIGHTING MEASURES*

Flammability of the product	: Flammable
Flash points	: -24°C
Products of combustion	: Toxic fumes may be evolved on burning or exposure to heat. See stability and reactivity, Section 10.

Fire hazards in presence of various substances	: DANGER of flashback if sparks or hot surfaces ignite vapour
Fire fighting media and instructions	: Use foam, DRY powder or water fog. DO NOT USE water jets. Fires in confined spaces should be dealt with by trained personnel.
Protective clothing (fire)	: Be sure to use an approved/certified respirator or equivalent.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions	: Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition.
Environmental precautions	: Protect grains from potential spillages to minimize contamination. Do not wash product into the drainage system. In the case of spillage on water, prevent the spread of product by the use of barrier equipment. Recover product from the surface. Protect environmentally sensitive areas and water supplies. In the event of spillages contact the authorities. Regular surveillance on the location of the spillage should be maintained.
Spillages	: As this product has a very low flash point any spillage or leak is a severe fire and/or explosion hazard. Spilled material may make surface slippery. It is advised that stocks of absorbent material should be held in quantities sufficient to deal with any spillage, which may be reasonably anticipated. Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, in basements, etc.). Isolate spillage from ignition sources including road traffic. Evacuate all non-essential personnel from the immediate area. If spillage has occurred in a confined space, ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry. Ensure good ventilation. Large and uncontrolled spillages should be smothered with foam to reduce the risk of ignition. The foam blanket should be maintained until the area is declared safe. Recover of large spillages should be effected by specialist personnel.

7 HANDLING AND STORAGE

Handling	: Ensure good ventilation and avoid the inhalation and contact with vapours, mists or fumes, which may be generated during use. If such vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonable practicable level. Avoid contact with skin and observe good personal hygiene. Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate. Do not siphon product by mouth. Whilst using do not eat, drink or smoke. Take all necessary precautions against accidental spillage into soil or water.
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Storage	: Store and dispense only in well-ventilated areas away from heat and sources of ignition. Store and use only in equipment/containers designed for use with this product. Containers must be properly labeled and kept closed when not in use. Do not remove warning labels from containers. Empty packages may contain some remaining product. Retain hazard warning labels on empty packages as a guide to the safe handling, storage and disposal of empty packaging. Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapour concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume. Always have sufficient people standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.
Fire prevention	: Light hydrocarbon vapours can build up in the headspace of tanks. Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Explosive air/vapour mixtures may form at ambient temperatures. Product contaminated rags; paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use. Empty containers represent a fire hazard as they may contain some remaining flammable product and vapour. Never cut, weld, solder or braze empty containers

8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure limits	: if vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonable practical level.
Relevant exposure limits	: n-Hexane <u>ACGIH</u> TLV: 50 ppm, 176 mg/m ³ (8hr TWA) <u>UK publication EH 40 (Occupational Exposure Standard)</u>
Long-term exposure limit	: <u>ACGIH</u> 20 ppm, 70 mg/m ³
Personal protection	
Eyes	: Chemical Splash goggles or face visor.
Body	: Chemical resistant protective suite.
Respiratory	: Vapour respirator. If operations are such that exposure to vapour, mist or fumes may be anticipated, then approved respiratory equipment should be worn. The use of respiratory equipment must be strictly in accordance with manufacturers instructions and any statutory requirements governing its selection and use.
Hands	: PVC or rubber gloves.
Feet	: Chemical resistant safety boots.
Protective clothing	: Splash goggles or face visor. Full chemical resistant protective suit. Vapor respirator. Butyl gloves. Chemical resistant boots.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	: Liquid.
Colour	: Colourless. Clear.
Odor	: Solvent
Boiling point/range	: ASTM 56 °C 66-69
Density	: ASTM D1298 KG/M ³ 669 (@15°C)

10 STABILITY AND REACTIVITY

Stability and reactivity	: The product is stable at ambient temperatures.
Conditions to avoid	: Sources of ignition. Excessively high temperatures (Heat)
Incompatibility with various substances or materials	: Avoid contact with strong oxidizing agents.
Hazardous decomposition products	: Thermal decomposition products will vary with conditions. Incomplete combustion will generate smoke, CO ₂ and hazardous gases, including carbon monoxide.

11 TOXICOLOGICAL INFORMATION

Eyes	: Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.
Skin	: Likely to cause skin irritation. Likely to result in chemical burns following prolonged wetting of the skin (e.g. after road traffic accident).
Ingestion	: Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhea. Will injure the lungs if aspiration occurs. E.g. during vomiting.
Inhalation	: Likely to be irritating to the respiratory tract if high concentrations of mist or vapours are inhaled. May cause nausea, dizziness, headaches and drowsiness if high concentrations of vapour are inhaled. Chronic exposure to n-Hexane can lead to loss of sensation in hands and feet and has been linked with neurotoxic effects, progressing for several months following exposure, followed by slow recovery. ABUSE: Under normal conditions of use the product is not hazardous; however, abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and/or result in sudden fatality.

12 ECOLOGICAL INFORMATION

Aquatic toxicity	: May be harmful to aquatic organisms. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.
Mobility	: Spillages may penetrate the soil causing ground water contamination.
Bio-accumulative potential	: No evidence to suggest bioaccumulation will occur.
Persistence/Degradability	: The product is inherently biodegradable.

13	DISPOSAL
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Product disposal	: Dispose of via an authorized person/licensed waste disposal contractor in accordance with local regulations.
Container disposal	: Hazard warning labels should not be removed from empty containers as they may still contain some product. Hazard labels are a guide to the safe handling of empty packaging and shouldn't be removed. Do not cut, puncture or weld on or near the container (may still contain product). Materials contaminated with the product should be treated as highly inflammable. Disposal should be in accordance with local regulations.

14	TRANSPORT INFORMATION
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IMO	Hexanes, Flammable liquid, class 3.2, Packing group II
UN	Hexanes, flammable liquid class 3, UN No. 1208
ADR/RID	Hexanes, class 3, item 3(b), Hazard Identification No. 33
IMDG – class	
IATA/ICAO	Hexanes, Flammable liquid, class 3, packaging group II
Emergency Action Code	3[Y] E

15	REGULATORY INFORMATION
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EU category of danger	: Highly Flammable. Irritant. Harmful.
EU Labeling Information	
Symbol	
Indication of danger	: Flame, St. Andrew's Cross. : HARMFUL
R phases	: R11 Highly flammable. R48/20 Harmful: Danger of serious damage to health by prolonged exposure. R38 Irritating to skin. R65 Harmful: may cause lung damage if swallowed.
S phases	: S23 Do not breath spray. S24 Avoid contact with skin. S29 Do not empty into drains. S43 In case of fire, use foam/dry power/CO ₂ . Never use water jets. S63 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
EINECS Number	: 296-903-4
Container must carry the following information	: "EC Label", distillates (petroleum), C6-rich.

15	OTHER INFORMATION
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Complied by	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 280-0000
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Notice to reader:

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.