TAG SOLVENT PRODUCTS (PTY)LTD.

MATERIAL SAFETY DATA SHEET
KOGASIN 4

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common name	: KOGASIN 4
Supplier	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600
Trade name	**: Kogasin 4**
Material uses	: Detergents; carrier for insecticides; polishes; catalyst carrier, hand-cleaner.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS#	% By Weight	Exposure Limits
Nonane	111-84-2	30-50	**ACGIH TLV:** TWA: 200 ppm
Decane	124-18-5	30-50	-
Undecane	1120-21-4	10-35	-
Dodecane and heavier	-	2	-
Octane and lighter	-	<0.1	-
Total Isoparaffins		8	

3 HAZARDS IDENTIFICATION

Physical state and appearance	: Liquid. Colourless.
Emergency overview	: WARNING! FLAMMABLE LIQUID. May form flammable vapour mixtures with the air. Avoid all ignition sources. Vapour may travel a considerable distance to source of ignition and flashback. Vapour heavier than air – prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. HARMFUL: may cause ling damage if swallowed.
Routes of entry	: Eye contact. Ingestion. Inhalation. Skin contact. Target organs: Central nervous system.
Potential acute health effects	
Eyes	: May be an eye irritant.
Skin	: Contact with skin may result in irritation. Will have a degreasing action on the skin. Repeated or prolonged contact may lead to irritant contact dermatitis.
Inhalation	: Hazardous in case of inhalation. Vapour may be an irritant to the mucous membranes and respiratory tract. Inhalation of vapour can result in headache, dizziness and possible nausea. Inhalation of high concentrations can produce central nervous system depression, which can lead to loss of coordination, impaired judgment, and, if exposure is prolonged, unconsciousness.
Ingestion	: Hazardous in case of ingestion. Swallowing can result in nausea, vomiting, diarrhea, dizziness and narcosis. HARMFUL: May cause lung damage if swallowed.
Potential chronic health effects	: CARCINOGENIC EFFECTS: Not classified as a carcinogen, by ACGIH. MUTAGENIC EFFECTS: Not classified as a mutagen, by ACGIH TERATOGENIC EFFECTS: Not classified as a teratogen, by ACGIH.
Medical conditions aggravated by overexposure	: No known effects.
Overexposure/signs/ Symptoms	: Inhalation of vapour can produce headache, dizziness, drowsiness, anaesthetic effect and central nervous system depression, which may lead to loss of coordination, numbness, impaired judgment, inability to concentrate and, if exposure is prolonged, unconsciousness.

See toxicological information (section 11)

4 FIRST AID MEASURES

Eye contact	: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 15 minutes, keep eyelids open. Get medical attention (sensible precaution).
Skin contact	: In the case of contact, flush the skin with plenty of soap and water. Remove the contaminated clothing and shoes. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation occurs.
Inhalation	: If inhaled, remove to fresh air. Take precautions to ensure rescuer is not overcome. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing is laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical assistance.
Ingestion	: DO NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth with water. Give water to drink (dilute stomach contents). Get medical attention.
Notes to physician	: Treat symptomatically.

5 FIRE FIGHTING MEASURES

Flammability of the product	: Flammable Liquid. May form flammable vapours with air. Avoid all ignition sources. Flameproof equipment necessary in area where this chemical is being used. Nearby equipment must be earthed. Vapour heavier than air – prevent concentration in hollows or slumps. DO NOT enter confined spaces where vapour may have collects. Vapour may travel a considerable distance to source of ignition and flash back.
Autoignition temperature	: Not available.
Flash points	: CLOSED CUP: 45ºC
Flammable limits	: Not available.
Products of combustion	: These products are carbon monoxide and carbon dioxide.
Fire and explosion hazards in presence of various substances	: Flammable Liquid. May form flammable vapours with air. Avoid all ignition sources. Flameproof equipment necessary in area where this chemical is being used. Nearby equipment must be earthed. Vapour heavier than air – prevent concentration in hollows or slumps. DO NOT enter confined spaces where vapour may have collects. Vapour may travel a considerable distance to source of ignition and flash back.
Fire fighting media and instructions	: Foam, dry agent (CO_2, dry chemical power).
Protective clothing (fire)	: Be sure to use an approved/certified respirator or equivalent.
Special remarks on fire hazards	: Flammable liquid. On burning it will emit toxic fumes including those of carbon dioxide and carbon monoxide; aldehydes in the case of incomplete combustion. Heating can cause expansion or decomposition leading to violent rupture of containers. Keep containers cool with water-spray. Where possible, remove cool containers from path of the fire. Do not approach fire-exposed containers. Vapour may travel considerable distances to source of ignition and flashback.
Special remarks on explosive hazards	: Heated containers may rupture violently from excessive heat.

6 ACCIDENTAL RELEASE MEASURES

Small spill or leak	: Avoid inhalation of vapours. Shut off all possible sources of ignition. Collect and seal properly labeled drums for disposal.
Large spill or leak	: Flammable liquid. Avoid inhalation of vapours. Work up wind or increase ventilation. Shut off all possible sources of ignition. Wear protective equipment to protect skin and eye contact and inhalation of vapours. Clear area of all unprotected personnel. Contain – prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Use non-sparking tools and equipment. Collect and seal in properly labeled drums for disposal. If contamination of sewers or waterways has occurs advice the local emergency services.

7 HANDLING AND STORAGE

Handling	: Do not breathe gas, fumes, vapours or spray. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes and inhalation of vapours. Keep away from incompatibles (refer to 'storage' section below).
Storage	: Store in segregated and approved area. Keep container in a cool, well-ventilated area and away from direct sunlight. Keep container tightly closed and sealed – check regularly for leaks. Store away from strong oxidizing agents. Avoid all possible sources of ignition (spark of flame).

8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering controls	: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below their respective Exposure Limit values. Vapour is heavier than air – prevent concentrations in hollows or sumps. DO NOT enter confined areas where vapour may have collected. Use explosion –proof equipment.
Personal protection	
Eyes	: Safety glasses/Splash goggles.
Body	: Overalls.
Respiratory	: Be sure to use an MSHA/NIOSH approved respirator equivalent, if inhalation risk exits.
Hands	: Impervious gloves. Available information suggests that gloves made from Responder ™ should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, a final assessment should be made by the user.
Feet	: Chemical resistant safety boots.
Protective clothing	: Safety glasses/Splash goggles. Overalls. Vapor respirator. Imperious gloves. Chemical resistant safety boots.
Personal protection in case of large spills	: Flammable liquid. Safety glasses/Splash goggles. Full suit. Vapor respirator. Boots. Gloves. If inhalation risk exists wear NIOSH approved organic vapour respirator.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	: Colourless liquid.
Colour	: Colourless.
Odor	: Noticeable.
Molecular weight	: Not applicable.
Molecular formula	: Not applicable.
pH (1% soln/water)	: Not applicable.
Boiling/condensation point	: 150-340ºC
Melting/freezing point	: Not applicable.
Critical temperature	: Not applicable.
Density	: 0.755 kg/L @ 20ºC
Vapor pressure	: No data available
Vapor density	: No data available
Volatility	: No data available.
Odor threshold	: Not applicable.
Evaporation rate	: Not applicable.
VOC	: Not applicable.
Viscosity	: 1.72 cSt @ 40ºC
LogK_{ow}	: Not applicable.
Iconicity (in water)	: Not applicable.
Dispersion properties	: Not applicable.
Solubility	: Insoluble in water.
Physical chemical comments	: All properties are typical properties and not product specifications.

10 STABILITY AND REACTIVITY

Stability and reactivity	: Normally stable.
Conditions of instability	: The material is volatile.
Incompatibility with various substances	: Incompatible with strong oxidizing agents.
Hazardous decomposition products	: Flue gas and carbon monoxide will form when heated to decomposition; aldehydes in the case of incomplete combustion.
Hazardous polymerization	: Will not occur.

11 TOXICOLOGICAL INFORMATION

Toxicity to animals	: For Nonane: Inhalation LC50 (rat, 4hr), 3200ppm. For Decane: Inhalation LC50 (rat, 8hr), >1369ppm. For Undecane: Inhalation LC50 (rat, 8hr), >442ppm
Chronic effects on humans	: No adequate data for evaluation of carcinogenicity to humans.
Other toxic effects on humans	: No additional remark.
Special remarks on toxicity to animals	: No additional remark.
Special remarks on chronic effects on humans	: No additional remark.
Special remarks on other toxic effects on humans	: No additional remark.

12 ECOLOGICAL INFORMATION

Avoid contaminating waterways.

13 DISPOSAL CONSIDERATIONS

Waste information	: Advise flammable nature. Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste stream	: Whatever cannot be saved for recovery or recycling should be handled according to federal, state/provincial and local laws and regulations.

Consult your local or regional authorities.

14 TRANSPORT INFORMATION

Regulatory information	**UN number**	**Proper shipping name**	**Class**	**Packing group**	**Label**
US DOT Classification	UN 3295	Hydrocarbons, Liquid, N.O.S. (Contains nonane & decane).	DOT CLASS 3: Flammable liquid.	Ill	
Marine Pollutant	Not classified as a Marine Pollutant to the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.				
Hazardous s substances	CERCLA Reportable quantity (RQ): None.				
Special provisions for transport	Flammable liquid.				
Canadian TDG Classification	***Product identification number (PIN):*** 3295	Hydrocarbons, Liquid, N.O.S. (Contains nonane & decane).	Hazard CLASS 3: Flammable liquid.		
IMDG/IMO Classification	UN 3295	Hydrocarbons, Liquid, N.O.S. (Contains nonane & decane).	Class 3.3	Ill	
IATA/ICAO Classification	UN 3295	Hydrocarbons, Liquid, N.O.S. (Contains nonane & decane).	Class 3 Division	Ill	
ADR/RID Classification	UN 3295		ADR Class 3		

15 REGULATORY INFORMATION

OSHA HCS Classification	: Class: Flammable liquid. Meets criteria for hazardous material, as defined by the Hazardous Communication Standard (29 CFR 1910.1200).
U.S. Federal regulations	: TSCA: Listed on the TSCA inventory. Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List. SARA: Section 302 (Reportable Quantity): Not Applicable. Section 302 (TPQ): Not Applicable. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

International Regulations	
WHMIS (Canada)	
EINECS	: This product has a WHMIS Classification of B2.
DSCL (EEC)	
	: CLASSIFICATION: Flammable [F] Harmful [Xn] RISK PHRASES: Flammable [R10] Irritating to skin [R38]. Harmful: May cause lung damage if swallowed [R65]. SAFETY PHRASES: Keep container in well-ventilated area. [S9]. Keep away from sources of ignition – No smoking [S16]. Do not empty into drains [S29]. Take precautionary measures against static discharges [S33].
International list	
	Listed on the Australian, TSCA, EC, and Japan Chemical Inventories.
State regulations	

16 OTHER INFORMATION

References	: In 'Registry of Toxic Effects of chemical Substances 2000' (Ed. D. Sweet) (US Dept. of Health & Human Services: Cincinatti 2000).
Other special considerations	: No additional remarks.
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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 it's 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.