WORLD CLASS LUBRICANTS

MATERIAL SAFETY DATA SHEET

INDY BEAD LUBE
Water-washable extrusion compound

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	INDY Bead Lube
Description	Water-washable extrusion compound
Validation Date	November 2015
Manufacturer	GUD Holdings (Pty) Ltd via Indy Oil SA 3 The Avenue East Isipingo KwaZulu-Natal South Africa 4110
Emergency Contact Number	+ 27 31 910 3111 + 27 60 572 8088

2. COMPOSITION

Component	EINECS Number	CAS registry number	% content	Classification
Sodium hydroxide	215-185-5	1310-73-2	0.5 – 2.0	Xi, R36/38

3. HAZARDS INDENTIFICATION

Human Health Hazards

Causes eye cause irritation characterized by a burning sensation. Inhalation of vapour or mist may cause respiratory tract irritation and central nervous system effects (headaches, dizziness).

The product is harmful if swallowed. Aspiration of the material into the lungs may cause chemical pneumonitis. Ingestion may lead to stomach distress, nausea and vomiting. Repeated

	contact or exposure to the skin may lead to cracking / drying due to the defatting action of the material. Skin discolouration may occur as a result of prolonged exposure.
Safety Hazards	The product is not classified as flammable but is highly reactive with certain substances. Care should be exercised upon storage and handling. Avoid contact with high temperatures and ignition sources.
Environmental Hazards	The product may lead to environmental contamination.

4. FIRST AID MEASURES

General Information

If the product splashes into the eye it may cause irritation and conjunctivitis. Ingestion may lead to irritation of the mouth, throat and digestive tract. Aspiration into the respiratory system may occur directly or following ingestion. The product has the potential to be fatal if large amounts are swallowed. Prolonged exposure to vapour may cause headache, dizziness, nausea and irritation to the eyes, upper respiratory tract, mouth and digestive tract. Obtain medical attention if discomfort continues. Remove affected person from source of contamination.

The following recommendations apply to sources of exposure:

Inhalation	Remove to fresh air, and keep affected person at rest. Obtain medical attention if irritation to respiratory tract is severe and adversely affects breathing.
Ingestion	Rinse out mouth thoroughly. Do not induce vomiting. Obtain medical attention immediately.
Skin Contact	Remove contaminated clothing, and wash skin with soap and water. Clothing must be laundered before reuse. If irritation persists, obtain medical attention.
Eye Contact	Flush eyes with clean water for at least 15 minutes. Do not rub or agitate the affected area.

5. FIRE FIGHTING MEASURES

Hazardous combustion products may include carbon monoxide (CO) and carbon dioxide (CO_2), as well as combustion products of sulphur and nitrogen.

Extinguishing Media:	Foam or dry chemical powder. Carbon dioxide, sand or earth can be used for small fires. Keep containers exposed to the fire cool by spraying with water. The danger zone should be cleared immediately.
Protective Equipment	Proper protective equipment including breathing apparatus must be worn when approaching a fire.
Safety Hazards	Products of combustion include CO and its derivatives

Comments on fire hazards:
Sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, ally alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3 dimethylbutane.
Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontanously in air.

Sodium hydroxide and cinnamaldehyde + heat may cause ignition. Reaction with certain metals releases flammable and explosive hydrogen gas.
Comments on explosion hazards:
Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aquesous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxde + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 °C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid inhalation of vapour and aerosol spray. Avoid contact with eyes, and prolonged skin contact. Ensure adequate ventilation is provided. In the event of a spill, beware of slippery surfaces.
Environmental precautions	Do not allow environmental contamination to occur. Avoid disposal (accidental or incidental) of product into drains, sewers, rivers and other water sources, and onto the ground. Use appropriate spill containment measures to avoid environmental contamination. Inform local authorities if this cannot be prevented. Use sand, earth or other appropriate absorbent material to contain spills. The product should not be dumped, but collected and delivered according to agreement with local authorities.
Spill clean-up / containment	Stop product leak if possible to do so without risk. Extinguish all ignition sources, and ensure adequate ventilation. The product in its liquid form can be contained by creating a barrier using sand, earth or other appropriate containment material. Collect with absorbent, non-combustible material into suitable containers. Do not allow run-off into sewers and drains. Dispose of material according to agreement with local authorities. Inform authorities immediately if the liquid enters surface water sources.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS

Ensure good personal hygiene when handling product. Wash hands, clothing and other contaminated areas with water and soap before leaving the work site to minimize spread of contamination. Do not eat, drink or smoke when using the product. Avoid forming sprays / aerosol mists. Ensure adequate ventilation is provided when product is being used. Ensure personal protective equipment is used where necessary.

STORAGE CONDITIONS

Store the product in its original container, and ensure that the container is tightly closed and kept upright. Store in a cool, dry, and well-ventilated area. Ensure that the relevant spill containment apparatus is available. Exposure to excessive temperatures should be avoided. Water contamination should be avoided.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

PROTECTIVE EQUIPMENT

The following personal protective equipment is applicable:

ENGINEERING MEASURES

Provide adequate ventilation. Observe occupational exposure limits and minimize risk of inhalation of vapour.

RESPIRATORY EQUIPMENT

The use of respiratory equipment under normal operating conditions is not required. Should operating conditions create airborne concentrations that are excessive, the use of an approved respirators such as toxic dust, mist and fume respirators are recommended.

HAND PROTECTION

The use of chemical-resistant, nitrile or butyl rubber gloves is recommended.

EYE PROTECTION

The use of tightly-fitted safety goggles / glasses is recommended when splashing is probable.

OTHER PROTECTION

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENE MEASURES

Wash contaminated clothing promptly and before reuse. Wash skin with soap and water upon contamination.

OCCUPATIONAL EXPOSURE

The ACGIH TLV for mineral oil mists is 5 $mg.m^{-3}$ for a time period of 8-hour exposure. A short-term exposure limit of 2 $mg.m^{-3}$ (STEL) is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	liquid at ambient temperature
Odour	Detergent
Solubility	Soluble in water
Vapour density (air = 1)	Heavier than air
Density at 20ºC	1000 $kg.m^{-3}$ (typical)

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Materials to avoid	Strong oxidising agents
Conditions to avoid	Extremes of temperatures.
Hazardous Decomposition Products	None under normal conditions known

Comments on reactivity:
Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahyrofuran is very exothermic, a mild explosion being noted on one occassion. Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, foraldehyde), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e. aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. berylium, lead acetate, nickel carbonyl, tetraethyl lead), mitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acylonitrile, phorosous pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.

11. TOXICOLOGICAL INFORMATION

HEALTH WARNINGS
The product can be hazardous when inhaled or touched. May cause internal injury. Vapour from product is hazardous when inhaled.
ROUTES OF ENTRY
Inhalation. Ingestion. Skin or eye contact.

TOXICOLOGICAL DATA

Acute toxicity - Oral	LD50 expected to be > 500 mg/kg
- Dermal	LD50 expected to be > 500 mg/kg
Inhalation	Can be irritating
Eye Irritation	Can be slightly irritating
Skin Irritation	Can be slightly irritating upon prolonged exposure.

Respiratory Irritation	If mists are inhaled, irritation of the respiratory tract may occur.
Carcinogenicity	Not known to be carcinogenic.
Mutagenicity	Not considered to be a mutagenetic hazard.
Reproductive toxicity	Not considered to be a hazard.

12. ECOLOGICAL INFORMATION

ECOTOXICITY
The product may cause physical fouling of the aquatic environment, and may present risks associated with oil spills.
BIOACCUMULATION
The product has the ability to bioaccumulate. No available data on bioaccumulation.
DEGRADABILITY
No available data on degradability.

13. DISPOSAL CONSIDERATIONS

Waste relating to the product is considered hazardous, and should be disposed off according to regulations as stipulated by local authorities.

14. TRANSPORTATION INFORMATION

The product is not regulated and no special transportation requirements exist.

15. REGULATORY INFORMATION

Risk phrases	R36/38
Safety phrases	1 / 2 – 26-37 / 39 - 45

16. OTHER INFORMATION

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RISK PHRASES IN FULL
R36/38 : Irritating to eyes and skin