

MATERIAL SAFETY DATA SHEET

Revision Date : 01.12.2006

1. PRODUCT IDENTIFICATION

Product name : ARAPROL 1000
Product use : Rubber extender oil

MSDS Internet website : www.hitechchemicals.co.za

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%	Symbol Codes	R-Phrase Numbers
Heavy paraffinic distillate solvent extract	64742-04-7	100.00	T	R45, R63, R48/21, R53

See Section 15 for European Label Information.

See Section 8 for Exposure Limits (if applicable).

3. HAZARDS IDENTIFICATION

Emergency response data : Dark brown Liquid. Storage tank headspace may contain flammable vapours. DOT ERG No. - Not applicable.

Potential health effects

Note : This product contains aromatic oils which may contain high concentrations of polycyclic aromatic (PCA) compounds.

Inhalation : Irritation may be caused if exposed to high concentration of fumes evolved when material is heated.

Skin : Prolonged skin contact may produce serious toxic effects including skin cancer, liver damage, blood effects and effects on unborn.

Eye : Irritation may be caused if exposed to high concentration of fumes evolved when material is heated.

Ingestion : Could have long-term harmful effects.

Carcinogenicity : Repeated contact with poor hygiene practices may cause skin cancer.

Potential environmental effects : May cause long-term adverse effects in the aquatic environment.

See Section 11 for further health effects/toxicological data.

4. FIRST AID MEASURES

Inhalation : Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation with a mouthpiece.

Skin contact : Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury) Hot product can cause

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thermal burns. Immediately cool the affected area with water. Seek medical assistance.

Eye contact	:	Flush thoroughly with water. If irritation occurs call a doctor.
Ingestion	:	Seek immediate medical attention. If medical attention is delayed, contact a Regional Poison Centre or emergency medical professional regarding the induction of vomiting or use of activated charcoal. Do not induce vomiting or give anything by mouth to a groggy or unconscious person.

5. FIRE-FIGHTING MEASURES

Extinguishing media	:	Carbon dioxide, foam, dry chemical and water fog.
Special fire fighting procedure	:	Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, municipal sewers, or drinking water supply.
Special protective equipment for firefighters	:	For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus.
Unusual fire and explosive hazards	:	Vapour accumulation could flash or explode if in contact with an open flame.
Products of decomposition	:	Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.
Flash Point	:	> 204 °C (ASTM D-92)
Upper Explosion Limit	:	7.0 %(V)
Lower Explosion Limit	:	0.6 %(V)
NFPA Hazard Id	:	Health: 2; Flammability: 1; Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

Procedure if material is released or spilled	:	Report spills/releases as required to appropriate authorities.
Methods for cleaning up	:	LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of absorbed residues as directed in Section 13. WATER SPILL: Notify port and relevant authorities. Confine with booms if skimming equipment is available to recover the spill for later recycling or disposal. Warn other ships in the vicinity. If allowed by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.
Personal precautions	:	See Section 8.
Environmental precautions	:	Prevent spill from entering municipal sewers, water sources or low lying areas. Advise the relevant authorities if contaminations have occurred.

7. HANDLING AND STORAGE

Safe handling advice	:	Harmful in contact with or if absorbed through the skin. Avoid inhalation of vapours or mists.
Storage information	:	Store away from all ignition sources in a cool, well ventilated area. To minimize the risk of fire or explosion from discharges, static and/or vapour accumulation, effectively bond and ground product storage and transfer systems.
Storage and handling procedures	:	Prevent small spills and leakages to avoid slip hazard.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value	Notations
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Note : This product does not contain any components which have recognised exposure limits. An estimated LTEL of 0.2 mg/m³ is recommended.

LTEL: Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.

STEL: Short Term Exposure Limits - Time Weight Average (TWA) over 15 Minutes

Note: Limits Shown for guidance only. Follow applicable regulations.

Personal Protection Equipment (PPE)

- Engineering controls : Use in well ventilated area.
- Respiratory protection : Approved respiratory equipment must be used when mist concentrations exceed the recommended exposure limits.No special requirements under ordinary conditions of use and with adequate ventilation.
- Eye protection : If splash with liquid is possible, chemical type goggles should be worn.
- Skin and body protection : Impervious gloves must be worn. If body contact is likely, appropriate personal protective equipment must be worn. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : Dark brown
- Odour : Aromatic
- Flash Point : > 204 °C (ASTM D-92)
- Vapour pressure : < 5 hPa
- Density : 0.9820 g/cm³ @ 20 °C (ASTM D-
- Pour point : 30 °C
- Viscosity, kinematic : > 50 mm²/s @ 40 °C (ASTM D-445)
25.00 mm²/s @ 100 °C (ASTM D-445)

10. STABILITY AND REACTIVITY

- Stability : Stable.
- Conditions to avoid : Extreme heat and high energy sources of ignition, such as sparks and static electricity.
- Materials to avoid : Halogens, strong acids, alkalis and oxidizers.
- Hazardous decomposition products : Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : (Rats): Harmful (LD50: Greater than 200 but 2000 mg/kg or less). Based on testing of similar products and/or components.
- Acute inhalation toxicity : Not Established.
- Acute dermal toxicity : (Rats): Harmful (LD50: Greater than 200 but 2000 mg/kg or less). Based on testing of similar products and/or components.
- Skin irritation : (Rabbits): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). Based on testing of similar products and/or the components.
- Eye irritation : (Rabbits): Practically non-irritating. (Draize score: greater than 6 but

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15 or less). Based on testing of similar products and/or the components.

Sensitization	:	Aromatic oils contain polycyclic compounds implicated in allergic skin sensitization and photosensitization studies in both animals and humans.
Repeated dose toxicity	:	Repeated dermal application to rats for 13 weeks was carried out with aromatic oils similar to components used in this product. Resulting effects included increased mortality, increased liver weight, decreased thymus gland weight and lymphoid tissue and blood disorders. Kidney and bone marrow toxicity and skin irritation were also observed in some cases.
Toxicity to reproduction	:	Repeated dermal application to rats using similar aromatic oils resulted in maternal toxicity, decreased foetal body weights and survival. In some cases male rats showed malformations and decreased sperm count.
Carcinogenicity	:	Aromatic oils and extracts are carcinogenic in lifetime mouse skin painting bioassays.
Other toxicological information	:	Skin cleansing studies show that toxic effects are not likely to occur if the aromatic oil is removed using guidance in Section 4. See Section 8 for recommended protection and precautions

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability	:	The majority of the components in this product would be expected to be inherently biodegradable through photodegradation.
Physico-chemical removability	:	Dissolution of the higher molecular weight hydrocarbon components in water will be limited, but losses through sediment adsorption may be significant.
Bioaccumulation	:	Not established.

Ecotoxicity effects

Further information on ecology

Remarks	:	This product is not expected to have short-term harmful effects on aquatic organisms (LL50 or EL50 >100 mg/L), however, there may be long-term adverse effects.
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13. DISPOSAL CONSIDERATIONS

Waste disposal	:	Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal.
Contaminated packaging	:	Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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Other regulations : The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Flash Point : > 204 °C (ASTM D-92)

14. TRANSPORT INFORMATION

Note : This product is not regulated by the following: U.S. DOT (CFR), ADR, IATA and IMDG.

Static Accumulator (50 picosiemens or less) : Yes

15. REGULATORY INFORMATION

US OSHA Hazard Communication Standard : Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.

Governmental Inventory Status : All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC.

EU Labelling : Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives.

Symbols : Xn
Harmful

R-Phrase(s) : R45, R63, R48/21, R53
May cause cancer., Possible risk of harm to the unborn child., Harmful: danger of serious damage to health by prolonged exposure in contact with skin., May cause long-term adverse effects in the aquatic environment.

S-phrase(s) : S36, S28, S53
Wear suitable protective clothing., After contact with skin, wash immediately., Avoid exposure - obtain special instructions before use.

Note : Contains Aromatic Oils.

SARA

U.S. Superfund Amendments and Reauthorization Act SARA Title III : This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) Reportable Hazard Categories : Fire Chronic

SARA (313) Toxic Release Chemicals: : Polynuclear Aromatic Hydrocarbons - Conc 0.1%.

The following product ingredients are cited on the lists below

Chemical name	CAS-No.	Concentration [%]	List Citations
Heavy paraffinic distillate solvent extract	64742-04-7	100.00	7, 16

Regulatory List Searched

1 = ACGIH ALL	6 = IARC 1	11 = TSCA 4	17 = CA P65	22 = MI 293
2 = ACGIH A1	7 = IARC 2A	12 = TSCA 5a2	18 = CA RTK	23 = MN RTK
3 = ACGIH A2	8 = IARC 2B	13 = TSCA 5e	19 = FL RTK	24 = NJ RTK
4 = NTP CARC	9 = OSHA CARC	14 = TSCA 6	20 = IL RTK	25 = PA RTK
5 = NTP SUS	10 = OSHA Z	15 = TSCA 12b	21 = LA RTK	26 = RI RTK

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Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

16. OTHER INFORMATION

Note: Engen products do not contain PCBs.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for any other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Precautionary Label Text:

Contains Aromatic Oils.

WARNING!

MAY PRODUCE EXTREMELY FLAMMABLE HEADSPACE IN STORAGE CONTAINERS. HARMFUL IF IN CONTACT WITH OR ABSORBED THROUGH SKIN. HARMFUL IF SWALLOWED.

PROLONGED SKIN CONTACT ON LABORATORY ANIMALS HAS CAUSED SERIOUS TOXIC EFFECTS, INCLUDING SKIN CANCER, LIVER DAMAGE, BLOOD EFFECTS, AND EFFECTS ON THE UNBORN.

FIRST AID: If swallowed, call a doctor immediately. Only induce vomiting at the instruction of a doctor. Never induce vomiting or give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a doctor immediately. In case of contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Call a doctor if symptoms occur. Wash clothing before reuse.

For industrial use only. Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. Refer to product Material Safety Data Sheet for further safety and health information.

Disclaimer

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.
