

MATERIAL SAFETY DATA SHEET

Revision Date : 08.02.2007

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : LAKTHIN STD NO 1 IN BULK
UN number : 1268
MSDS Internet website : www.hitechchemicals.co.za

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%	Symbol Codes	R-Phrase Numbers
Toluene	108-88-3	55.00 - 60.00	F, Xn	R11, R20
Alcohol blends (C1-C4)		10.00 - 15.00	Xn, F	R11, R36/37/38
Methyl ethyl ketone	78-93-3	5.00 - 10.00	F, Xi	R11, R36, R66, R67
Methyl Isobutyl Ketone	108-10-1	5.00 - 10.00	F, Xn	R11, R20, R36/37/38, R66
2-Butoxyethanol	111-76-2	1.00 - 5.00	Xn	R10, R20/21/22, R36/38
Benzene	71-43-2	< 0.10		

See Section 15 for European Label Information.

See Section 8 for Exposure Limits (if applicable).

3. HAZARDS IDENTIFICATION

Emergency response data : Colourless Liquid. Highly flammable. Vapour accumulation could flash and/or explode if in contact with any ignition source. DOT ERG No. : 128

Potential health effects

Inhalation : Respiratory irritation, dizziness, nausea and loss of consciousness.

Skin : Irritant.

Eye : Irritant.

Ingestion : If swallowed will cause gastric irritation and may enter the lungs resulting in lung damage.

Potential environmental effects : Toxic to fish, aquatic organisms and wildlife. Do not discharge into lakes, streams, ponds and ground water supply.

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

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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)
Eye contact	:	Flush thoroughly with water for at least 15 minutes. Get medical assistance.
Ingestion	:	Seek immediate medical attention. Do not induce vomiting.
Note to doctors	:	Material if aspirated into the lungs may cause chemical pneumonitis. Skin contact may aggravate an existing dermatitis. Treat appropriately.

5. FIRE-FIGHTING MEASURES

Extinguishing media	:	Carbon dioxide, foam, dry chemical and water fog.
Special fire fighting procedure	:	Water spray should only be used to keep fire-exposed containers cool, flush spills away from exposures, disperse vapours and protect personnel attempting to stop leak. 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	:	Highly flammable. Vapour accumulation could flash or explode if in contact with an open flame.
Products of decomposition	:	Fumes, smoke and carbon monoxide.
Flash Point	:	< 0 °C
Upper Explosion Limit (UEL)	:	7.1 %(V)
Lower Explosion Limit (LEL)	:	1.2 %(V)
NFPA Hazard Id	:	Health: 1; Flammability: 3; 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	:	Absorb on fire-retardant treated sawdust, diatomaceous earth, etc. Shovel up with spark-resistant utensils for later disposal at an approved facility, in accordance with current laws and regulations. SMALL SPILLS: Eliminate all ignition sources. Remove leaking containers to detached area. LARGE SPILLS: Self-contained breathing apparatus must be worn during cleanup. Eliminate all sources of ignition. Shut off source, seal the leak taking normal safety precautions. Contain material and pump back to holding tank for later disposal. Transfer equipment should be explosion-proof.
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	:	Avoid contact with eyes. Avoid prolonged repeated skin contact. Avoid inhalation of vapours or mists. Use in a well ventilated area away from all ignition sources. Avoid sparking conditions. Ground and bond all transfer equipment.
Storage information	:	This product is a static accumulator, therefore, all storage containers should be grounded and bonded. Drums should also be equipped with self-closing valves, pressure vacuum bungs and flame arresters. Outside or detached storage area, with an automatic sprinkling system, is preferred. Store away from all ignition sources in a cool, well ventilated area.

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Storage and handling procedures : To minimize the risk of fire or explosion from discharges, static and/or vapour accumulation, effectively bond and ground product storage and transfer systems.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value		Notations
Toluene	108-88-3	ACGIH TLV OSHA PEL SA OEL	LTEL STEL LTEL STEL LTEL STEL	188 mg/m ³ 560 mg/m ³ 375 mg/m ³ 560 mg/m ³ 188 mg/m ³ 560 mg/m ³	50 ppm 150 ppm 100 ppm 150 ppm 50 ppm 150 ppm	Skin; A4; BEI Estimated Skin Recommended Limit
Alcohol blends (C1-C4)		ACGIH TLV	LTEL STEL		200 ppm 200 ppm	Skin; BEI
Methyl ethyl ketone	78-93-3	ACGIH TLV	LTEL STEL		200 ppm 300 ppm	BEI
Methyl Isobutyl Ketone	108-10-1	ACGIH TLV	LTEL STEL		50 ppm 75 ppm	BEI
2-Butoxyethanol	111-76-2	ACGIH TLV	STEL		20 ppm	A3

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. Explosive-proof ventilation equipment with local exhaust is desirable.
- Respiratory protection : Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the recommended exposure limit. Self-Contained Breathing Apparatus may be required for use in confined or enclosed spaces.
- Eye protection : If splash with liquid is possible, chemical type goggles should be worn.
- Skin and body protection : Impervious gloves must be worn. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.
Colour : Colourless
Odour : Characteristic
Solubility : Appreciable
Flash Point : < 0 °C
Upper Explosion Limit (UEL) : 7.1 %(V)
Lower Explosion Limit (LEL) : 1.2 %(V)
Vapour pressure : < 20 hPa
Density : 0.8450 g/cm³ @ 20 °C (ASTM D-4052)
Viscosity, kinematic : < 1 mm²/s @ 40 °C (ASTM D-445)
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10. STABILITY AND REACTIVITY

Stability : Stable.

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Conditions to avoid	:	Heat, sparks, flame and build up of static electricity.
Materials to avoid	:	Strong oxidizers.
Hazardous decomposition products	:	Fumes, smoke and carbon monoxide.

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	:	(Rats): Harmful (LC50: greater than 2 but 5mg/l or less). Based on testing products and/or components.
Acute dermal toxicity	:	(Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components.
Skin irritation	:	(Rabbits): Irritant. (Primary Irritation Index: greater than 3 but less than 6). Based on testing of similar products and/or the components.
Eye irritation	:	(Rabbits): Irritant. (Draize score: greater than 15 but less than 35). Based on testing of similar products and/or the components.
Other toxicological information	:	Inhalation of vapours/mists may cause respiratory system irritation.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability	:	Not established.
Physico-chemical removability	:	Not established.
Bioaccumulation	:	Not established.

Ecotoxicity effects

Further information on ecology

Remarks	:	Toxic to fish, aquatic organisms and wildlife. Do not discharge into lakes, streams, ponds and ground water supply.
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13. DISPOSAL CONSIDERATIONS

Waste disposal	:	Dispose of waste at an appropriate disposal facility in accordance with current applicable laws and regulations.
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.
Other regulations	:	Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP).
Flash Point	:	< 0 °C

14. TRANSPORT INFORMATION

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ADR

Proper shipping name : FLAMMABLE LIQUIDS, n.o.s. (contains TOLUENE)
DOT ERG number : 128
Class : 3
Letter : F
Packing group : II
Labelling number : 3
Product Reportable Quantity : 500 kg

CFR

Proper shipping name : FLAMMABLE LIQUIDS, n.o.s. (contains TOLUENE)
DOT ERG number : 128
Class : 3
Letter : F
Packing group : II
Labelling number : 3
Product Reportable Quantity :

IATA_C

Proper shipping name : FLAMMABLE LIQUIDS, n.o.s. (contains TOLUENE)
DOT ERG number : 128
Class : 3
Letter : F
Packing group : II
Labelling number : 3
Product Reportable Quantity :

IMDG

Proper shipping name : FLAMMABLE LIQUIDS, n.o.s. (contains TOLUENE)
DOT ERG number : 128
Class : 3
Letter : F
Packing group : II
Labelling number : 3
Product Reportable Quantity :
Marine pollutant : Marine pollutant
Medical First Aid Guide (MFAG) table : 310
Emergency Schedule (EmS) number : 3-07
IMDG code page number : 3285

Static Accumulator (50 picosiemens or less) : Yes

15. REGULATORY INFORMATION

U.S. Drug Enforcement Administration Chemical Diversion and Trafficking Act : Sales, receipts, movements or unexplainable losses of the following chemical(s) may require recordkeeping and reporting in accordance with 21 CFR 1310/1313.

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 : F, Xn, N
Highly flammable, Harmful, Dangerous for the environment

R-Phrase(s) : R11, R36/37/38, R52/53, R67
Highly flammable., Irritating to eyes, respiratory system and skin., Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment., Vapours may cause drowsiness and dizziness.

S-phrase(s) : S2, S16, S29, S36/37/39
Keep out of the reach of children., Keep away from sources of ignition - No smoking., Do not empty into drains., Wear suitable protective

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clothing, gloves and eye/face protection.

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 Acute

SARA (313) Toxic Release Chemicals: Ethyl Benzene (100-41-4) - Conc < 1 %.

The following product ingredients are cited on the lists below

Chemical name	CAS-No.	Concentration [%]	List Citations
Toluene	108-88-3	55.00 - 60.00	1, 10, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
Alcohol blends (C1-C4)		10.00 - 15.00	1, 10, 18, 19, 20, 21, 23, 24, 25, 26
Methyl ethyl ketone	78-93-3	5.00 - 10.00	
Methyl Isobutyl Ketone	108-10-1	5.00 - 10.00	1, 10, 18, 19, 20, 21, 23, 24, 25, 26
2-Butoxyethanol	111-76-2	1.00 - 5.00	1, 10, 18, 19, 20, 21, 23, 25, 26
Benzene	71-43-2	< 0.10	1, 2, 4, 6, 9, 10, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

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

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

16. OTHER INFORMATION

Note: Our 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.

WARNING!

HIGHLY FLAMMABLE LIQUID AND VAPOUR. RESPIRATORY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, LOSS OF CONSCIOUSNESS, AND IN CASES OF EXTREME EXPOSURE, POSSIBLY DEATH. LOW VISCOSITY MATERIAL-IF SWALLOWED, MAY BE ASPIRATED AND CAN CAUSE SERIOUS OR FATAL LUNG DAMAGE.

SAFETY: Keep away from heat and flame. Avoid prolonged or repeated overexposure by skin contact or inhalation. Use with adequate ventilation. Keep container closed. Keep out of reach of children.

FIRST AID: Flush eyes thoroughly with water for at least 15 minutes. Get medical assistance. For

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widespread contact, immediately remove clothing under a safety shower. Wash contact areas with soap and water. Seek medical assistance. For lesser contact: Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. 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.

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.
