

Lion Oil Company

Product: Lion Nokorode Seal Kote

Revision No. 1



MSDS No. LO0439

Date of Preparation: 05/17/05

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Lion Nokorode Seal Kote

Internal ID: G.26

CAS Number: Mixture

Synonyms: Lion Nokorode Seal Kote Medium Grade, Lion Nokorode Seal Kote Light Grade, Lion Nokorode Seal Kote Heavy Grade, Petroleum Asphalt Mastic

Description: Black asphalt mastic, hydrocarbon solvent odor.

Manufacturer or Distributor: Lion Oil Co., 1000 McHenry St., El Dorado, AR 71730; (870) 862-8111

24-hr Emergency Phone Number: "FOR CHEMICAL EMERGENCY" Spill, Leak, Fire, Exposure or Accident

CALL CHEMTREC – Day or Night 800-424-9300

MSDS CONTACT: Beverly McFarland, 870-864-1306

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt
Asphalt, Oxidized	64742-93-4	40-60
Stoddard Solvent	8052-41-3	20-40
Limestone	1317-65-3	5-15
Cellulose	9004-34-6	<10
Fullers Earth	8031-18-3	<10
Emulsifiers	61789-77-3	<1

Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

WARNING !

Flammable Liquid and Vapor

Keep away from heat, sparks, and flame.

Keep Container Closed when not in use.

Use only with adequate ventilation.

May cause skin Irritation, wash thoroughly after handling.

☆☆☆☆☆

☆☆☆☆☆

HMIS

H	2
F	2
R	0

PPE†

†Sec. 8

Potential Health Effects

Primary Entry Routes: Inhalation of fumes, Skin contact, eye contact.

Target Organs: eyes, skin, respiratory system, central nervous system, and kidneys.

Carcinogenicity: There is inadequate evidence that bitumens alone are carcinogenic to humans. There is sufficient evidence for the carcinogenicity of extracts of steam-refined bitumens, air-refined bitumens, and pooled mixtures of steam- and air-refined bitumens in experimental animals. There is inadequate evidence for the carcinogenicity of undiluted air-refined bitumens in experimental animals. There is limited evidence for the carcinogenicity of undiluted steam-refined bitumens and for cracking-residue bitumens in experimental animals. (bitumens)

IARC-3

Acute Effects

Inhalation: Breathing of the mists, vapors or fumes may cause irritation of respiratory tract, dizziness, headaches, and nausea

Eye: Exposure to the mists, vapors or fumes may cause irritation.

Skin: Irritation and dermatitis.

Ingestion: May cause gastrointestinal disturbances, irritation, nausea, vomiting, and diarrhea.

Chronic Effects: Absorption from prolonged or repeated skin contact may cause systemic toxicity.

Section 4 - First Aid Measures

Inhalation: Move to fresh air. Use artificial respiration if necessary. **Seek Medical Attention.**

Eye Contact: Flush with large amounts of water for at least 15 minutes. **Seek Medical Attention.**

Skin Contact: DO NOT try to dissolve with solvents or thinners, wash with soap and water.

Ingestion: Do Not Induce Vomiting, because of danger of aspiration into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs keep head below hips to prevent aspiration into lungs and monitor for breathing difficulty. **Seek Medical Attention.**

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flash Point: 102 °F

Flash Point Method: PMCC

Autoignition Temperature: No Data

LEL: 0.5%

UEL: 6.0%

Flammability Classification: Class II Combustible liquid

Extinguishing Media: Extinguish with dry chemical, CO₂, foam, and water fog. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water. Apply water from as great a distance as possible. Water or foam may cause frothing. Keep run off water out of sewers and water sources. Minimize breathing of gases, vapor, fumes, or decomposition products. Use self-contained breathing apparatus for enclosed or confined spaces or as otherwise needed.

Unusual Fire or Explosion Hazards: Flammable – Do not store near strong oxidants or open flame. Smoke from fire may be hazardous.

Hazardous Combustion Products: Under fire conditions – May form toxic materials; carbon dioxide and monoxide, oxides of sulfur, H₂S, and other decomposition products, in the case of incomplete combustion.

Special Fire-Fighting Procedures: Use air supplied rescue equipment. Cool exposed containers with water.

Section 6 - Accidental Release Measures

“FOR CHEMICAL EMERGENCY” Spill, Leak, Fire, Exposure or Accident
CALL CHEMTREC – Day or Night 800-424-9300

Spill /Leak Procedures: Shut off sources of ignition. Shut off leak, if possible without risk.

Small Spills: Allow material to cool, and then scrape up material for disposal.

Large Spills: Dike ahead of spill to contain, and then take up with sand or other non-combustible, absorbent material. Dispose in accordance with local, state and federal regulations.

Section 7 - Handling and Storage

Handling Precautions: Stay up wind to avoid vapors. Do not store near open flames. Ground lines and equipment used during transfer.

Storage Requirements: Do not store near strong oxidants and avoid water contamination.

Section 8 - Exposure Controls / Personal Protection

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Asphalt Fumes	5 mg/m ³		0.5 mg/m ³				No Data
Stoddard Solvent	500 ppm		100 ppm		350 ppm		20000mg/m ³
Limestone	15 mg/m ³		10 mg/m ³		10 mg/m ³		No Data
Cellulose	10 mg/m ³		15 mg/m ³		10 mg/m ³		No Data
Fullers Earth	No Data		5 mg/m ³		No Data		No Data
Emulsifiers	No Data		No Data		No Data		No Data

Engineering Controls

Ventilation: General mechanical with local exhaust; sufficient to maintain exposure levels below recommended ACGIH TLVs and OSHA PELs.

Protective Clothing/Equipment

Gloves: Use chemical resistant gloves to avoid prolonged or repeated skin contact.

Goggles: Chemical-type goggles or face shield.

Respiratory: Self-contained, positive-pressure breathing apparatus when used in confined or enclosed space or when exposure limits are exceeded or hydrogen sulfide is unknown or exceeds 20 ppm. Organic vapor respirators can be used with good ventilation when organic vapors are less than 1000 ppm or ten (10) times permissible exposure limit, whichever is less. For emergency or non-routine operations (cleaning spills or storage tanks), wear a SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes: procedures for selecting respirators, medical evaluations, fit testing, use in routine and emergency situations, cleaning, disinfecting, storing, inspecting and maintaining respirators, breathing air quality, quantity and flow, training in respiratory hazards, and evaluation of effectiveness of respiratory program.

Contaminated Clothing: Launder or dry-clean contaminated clothing before reuse.

Hygiene: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, and smoking.

Section 9 - Physical and Chemical Properties

Physical State: Viscous Liquid

Appearance and Odor: Black asphalt mastic, hydrocarbon solvent odor.

Odor Threshold: ND

Vapor Pressure: 26 mmHg@ 100°F

Vapor Density (Air=1): 4+

Formula Weight: ND

Density: ND

Specific Gravity (H₂O=1, at 4 °C): 0.9 – 1.1

pH: ND

Water Solubility: Negligible

Other Solubilities: ND

Solvent Boiling Point: 300-360°F

Freezing/Melting Point: ND

Viscosity: ND

Refractive Index: ND

Surface Tension: ND

% Volatile: 41-47% vol.

Evaporation Rate: (Butyl Acetate = 1) 0.19

VOC lbs/gal: 2.75-3.25

Section 10 - Stability and Reactivity

Stability: Material is stable.

Polymerization: Will not occur.

Chemical Incompatibilities: Do not store near strong oxidants.

Conditions to Avoid: Do not store near open flames.

Hazardous Decomposition Products: Under fire conditions – May form toxic materials; carbon dioxide and monoxide, oxides of sulfur, H₂S, and other decomposition products, in the case of incomplete combustion.

Section 11- Toxicological Information

Carcinogenicity: There is inadequate evidence that bitumens alone are carcinogenic to humans. There is sufficient evidence for the carcinogenicity of extracts of steam-refined bitumens, air-refined bitumens, and pooled mixtures of steam- and air-refined bitumens in experimental animals. There is inadequate evidence for the carcinogenicity of undiluted air-refined bitumens in experimental animals. There is limited evidence for the carcinogenicity of undiluted steam-refined bitumens and for cracking-residue bitumens in experimental animals. (bitumens)

IARC-3

Asphalt:

Toxicity by ingestion: Grade 1; LD50 5 to 15 g/kg.

Skin-Mouse TDLo:130 g/kg/81W-I:Carcinogenic effects Hygiene and Sanitation: English Translation of Gigiena Sanitariya. (Springfield, VA) V.29-36, 1964-71. Discontinued HYSAAV 33(4-6),180,68

Skin-Mouse TD:69 g/kg/43W-I:Equivocal tumorigenic agent Hygiene and Sanitation: English Translation of Gigiena Sanitariya. (Springfield, VA) V.29-36, 1964-71. Discontinued HYSAAV 33(4-6),180,68

Intramuscular-Rat TDLo:5400 mg/kg/24W-I:Neoplastic effects Archives of Pathology. (American Medical Association., 535 N. Dearborn St., Chicago, IL 60610) V.5, No. 3-V.50, No. 3, 1928-50; V.70-99, 1960-75ARPAAQ 70,372,60

Skin-Mouse TDLo:905 g/kg/2Y-I:Neoplastic effects Journal of the Madras Agricultural Students' Union. (Madras Agricultural Journal, Tamil Nadu Agricultural University Campus, Coimbatore 641003, India) V.1-16, 1912-28JMSUAT 34,255,65

Intramuscular-Mouse TDLo:12 g/kg/12W-I:Neoplastic effects Archives of Pathology. (American Medical Association., 535 N. Dearborn St., Chicago, IL 60610) V.5, No. 3-V.50, No. 3, 1928-50; V.70-99, 1960-75ARPAAQ 70,372,60

Stoddard Solvent:

Eye effects-Human 470 ppm/15M Toxicology and Applied Pharmacology. (Academic Press, 111 5th Ave., New York, NY 10003) V.1- 1959-TXAPA9 32,282,75

Inhalation-Cat, adult LCLo:10 g/m³/2.5H Toxicology and Applied Pharmacology. (Academic Press, 111 5th Ave., New York, NY 10003) V.1- 1959-TXAPA9 32,282,75

Section 12 - Ecological Information

Ecotoxicity :

Effect of low concentrations on aquatic life is unknown.

FOULING TO SHORELINE.

May be dangerous if it enters water intakes.

Notify local health and pollution control officials.

Notify operators of nearby water intakes.

Asphalt can have disastrous effects on bottom life.

Section 13 - Disposal Considerations

Disposal: Local, state and federal disposal regulations must be followed.

Container Cleaning and Disposal: "Empty" Container Warning: "Empty" containers retain product residue (liquid and/or vapor) 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.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description information.

Transportation Information for Bulk Shipments :

DOT Shipping Name: Tars, Liquid

DOT Hazard Class: 3

DOT ID No.: UN1999

DOT Packing Group: III

Hazard Label: Flammable Liquid

IATA Special Provisions: None

IMO Restrictions: None

Transportation Information for Non-Bulk Shipments :

DOT Shipping Name: Tars, Liquid

DOT Hazard Class: 3

DOT ID No.: UN1999

DOT Packing Group: III

Hazard Label: Flammable Liquid

IATA Special Provisions: None

IMO Restrictions: None

Section 15 - Regulatory Information

EPA Regulations:

CERCLA Reportable Quantity (RQ) (40 CFR 302.4):

Compound	CAS Number	RQ
Benzo(a)pyrene	50-32-8	1
Benzo(a)anthracene	56-55-3	10
Dibenz(a,h)anthracene	53-70-3	1
3-Methylcholanthrene	56-49-5	10
7,12-Dimethylbenz(a)anthracene	57-97-6	1
Naphthalene	91-20-3	100
Biphenyl	92-52-4	100
Anthracene	120-12-7	5000
Benzo(rst)pentaphene	189-55-9	10
Phenanthrene	85-01-8	5000
Benzo(g,h,l)perylene	191-24-2	5000
Indeno(1,2,3-cd)pyrene	193-39-5	100
Benzo(b)fluoranthene	205-99-2	1
Fluoranthene	206-44-0	100
Benzo(k)fluoranthene	207-08-9	5000
Benzo(a)phenanthrene	218-01-9	100

SARA 311/312 Codes (40 CFR 370 / 29 CFR 1910.1200):	Fire	Yes
	Pressure	No
	Reactivity	No
	Immediate (acute)	Yes
	Delayed (chronic)	Yes

SARA Toxic Chemical (40 CFR 372):

Compound	CAS Number	Concentration ug/kg	Method Detection Limit ug/kg
Benzo(a)pyrene	50-32-8	Not Detected	9720
Benzo(a)anthracene	56-55-3	Not Detected	7480
Dibenz(a,h)anthracene	53-70-3	Not Detected	42000
3-Methylcholanthrene	56-49-5	Not Detected	22880
7,12-Dimethylbenz(a)anthracene	57-97-6	Not Detected	20000
Naphthalene	91-20-3	Not Detected	7240
Biphenyl	92-52-4	Not Detected	100000
Anthracene	120-12-7	Not Detected	12120
Benzo(rst)pentaphene	189-55-9	Not Detected	20000
Dibenzo(a,h)pyrene	189-64-0	Not Detected	20000
Phenanthrene	85-01-8	Not Detected	10640
Benzo(g,h,l)perylene	191-24-2	Not Detected	18360
Dibenzo(a,l)pyrene	191-30-0	Not Detected	20000
Dibenzo(a,e)pyrene	192-65-4	Not Detected	20000
Indeno(1,2,3-cd)pyrene	193-39-5	Not Detected	32200
7,H-dibenzo(c,g)carbazole	194-59-2	Not Detected	10000
Benzo(b)fluoranthene	205-99-2	Not Detected	16760
Benzo(j)fluoranthene	205-82-3	Not Detected	20000
Fluoranthene	206-44-0	Not Detected	20000
Benzo(k)fluoranthene	207-08-9	Not Detected	10640
Benzo(a)phenanthrene	218-01-9	Not Detected	20000
Dibenz(a,j)acridine	224-42-0	Not Detected	9920
Dibenz(a,h)acridine	226-36-8	Not Detected	10000
Dibenzo(a,e)fluoranthene	5385-75-1	Not Detected	20000
1-Nitropyrene	5522-43-0	Not Detected	20000
5-Methylchrysene	3697-24-3	Not Detected	20000

When the concentration of a compound is below the MDL and it is reasonably suspected to be present in the product then some companies have adopted the practice of reporting ½ the MDL.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): None

TSCA (40 CFR 710): All components of this product are listed on the TSCA Inventory.

State Regulations: The following chemicals are specifically listed by individual states, for details on each states regulatory requirements you should contact the appropriate agency in that state.

Compound	CAS Number	States
Asphalt Fumes	8052-42-4	CA, CA65, MA, TX, IL, PA
Asphalt, Oxidized	64742-93-4	
Stoddard Solvent	8052-41-3	CA1, CA2, MA, IL, PA, TX
Limestone	1317-65-3	CA2, MA, PA, TX
Cellulose	9004-34-6	CA2, MA, IL, PA, TX
Fullers Earth	8031-18-3	
Emulsifiers	61789-77-3	

CA – CALIFORNIA STATE SUPERFUND HAZARDOUS SUBSTANCE
CA1-CALIFORNIA OSHA DIRECTORS LIST OF HAZARDOUS SUBSTANCES
CA2-CALIFORNIA OSHA WORKPLACE AIRBORNE CONTAMINANTS
CA65 – CALIFORNIA PROPOSITION 65 CARCINOGENS OR REPRODUCTIVE TOXINS
MA – MASSACHUSETTS SUBSTANCE LIST
TX – TEXAS AIR CONTAMINANTS WITH HEALTH EFFECTS SCREENING LEVEL
IL – TOXIC SUBSTANCE DISCLOSURE TO EMPLOYEES LIST
PA – PENNSYLVANIA HAZARDOUS SUBSTANCE LIST

SECTION 16 - Other Information

Reviewed By: Bobby Lee, 05/17/05

Revision Notes: Combined Seal Kote Light, Medium and Heavy to one MSDS. Replaces Lion Oil MSDS Numbers LO0168, LO0169 and LO0216.

Disclaimer: LION OIL COMPANY PROVIDES THIS INFORMATION FOR THE USER'S CONSIDERATION. LION OIL COMPANY BELIEVES THIS INFORMATION IS ACCURATE, BUT NOT ALL INCLUSIVE IN ALL CIRCUMSTANCES. USER SHOULD ENSURE THAT USER HAS CURRENT DATA RELEVANT FOR ITS PURPOSES. NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS OR OTHERWISE IS GIVEN.