



Material Safety Data Sheet

NFPA	PPE	Transport Symbol
		

Issuing Date 04-Jun-2009

Revision Date

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Duro Patch 115

Recommended Use Blacktop Patch.

Supplier Address

Mohawk Asphalt Emulsions
6 Freemans Bridge Road
Scotia, NY 12302
TEL: 518-372-7788

Company Emergency Phone Number 1-800-328-2482

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Vapors may be irritating to eyes, nose, throat, and lungs

May cause central nervous system depression

May contain and release hydrogen sulfide which is a highly toxic and flammable gas

Flammable vapors can accumulate during long term heated storage of this material

Hydrogen Sulfide (H₂S) has a rotten egg "sulfurous" odor. This odor should not be used as a warning property of toxic levels because H₂S can overwhelm and deaden the sense of smell. H₂S meter or colorimetric indicating tubes are typically used to determine the concentration of H₂S

Appearance Black, Viscous

Physical State Solid, Aggregate coated by liquid.

Odor Petroleum like

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects

Principle Routes of Exposure

Inhalation, Skin contact, Eye contact.

Acute Toxicity

Eyes

May cause irritation.

Skin

Irritating to skin. Repeated exposure may cause skin dryness or cracking. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation	May be harmful if inhaled. May cause central nervous system effects such as headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death. Hydrogen Sulfide gas between 15 and 500 ppm can cause headache, nausea and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid unconsciousness due to respiratory paralysis and death by suffocation. Greater than 1000 ppm can cause immediate unconsciousness and death if not promptly revived. Contains low levels of Hydrogen sulfide which may be released and can be fatal if inhaled at certain concentrations.
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".
Chronic Effects	<p>Prolonged exposure may cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. Repeated contact may cause allergic reactions in very susceptible persons. The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence that undiluted, air-refined asphalt is carcinogenic to experimental animals. Limited evidence exists that undiluted steam-refined and cracking residue asphalts is carcinogenic to animals. Additionally, IARC has concluded that there is inadequate evidence that asphalts alone are carcinogenic to humans. Repeated long term skin application of similar petroleum crudes have been shown to cause skin cancer in laboratory animals. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest.</p> <p>Hydrogen sulfide (H₂S), a colorless, rotten-egg smelling, minor component of this product, can affect the body if it is inhaled or if it comes in contact with the eyes, skin, nose or throat. Odor cannot be used as an indication of its presence since exposure to H₂S causes loss of the sense of smell. Inhalation of high concentrations of hydrogen sulfide (>1000 ppm) may cause coma, convulsions, and death after a single overexposure due to its ability to be a rapidly acting systemic poison that causes respiratory paralysis. Lower and prolonged doses can cause severe respiratory tract irritation and inflammation including eye irritation and damage and central nervous system effects such as headache, fatigue, irritability, insomnia, and stomach upset. Pneumonitis (chemically induced pneumonia) can also occur.</p>
Aggravated Medical Conditions	Respiratory disorders, Skin disorders.
Environmental Hazard	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Limestone	1317-65-3	91-95
Asphalt	8052-42-4	4-6
Fuels, diesel, no. 2	68476-34-6	1.5

Asphalt can contain hydrogen sulfide (CAS # 7783-06-4), a naturally occurring substance found in crude oil, a material from which asphalt is derived. Amounts contained in this product are considered residual, but can be released upon heating.

4. FIRST AID MEASURES

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Skin Contact	Wash off with warm water and soap. Do not remove with solvent. Use waterless hand cleaner followed by soap and water. Remove and clean contaminated clothing.
Inhalation	Move victim to fresh air. Administer oxygen if breathing is difficult and you are trained. If breathing has stopped, contact emergency medical services immediately.
Ingestion	Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
Notes to Physician	Keep victim warm and quiet.
Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable. Combustible material: may burn but does not ignite readily. Vapors are flammable.
Flash Point	Not determined.
Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or regular foam. Use water spray or fog; do not use straight streams. Move containers from fire area if you can do it without risk.
Hazardous Combustion Products	Hydrogen sulfide , Oxides of sulfur, Nitrogen oxides (NOx), Carbon oxides.
Explosion Data	
Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	May be ignited by heat, sparks or flames.
Specific Hazards Arising from the Chemical	Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

<u>NFPA</u>	Health Hazard 2	Flammability 1	Stability 0	Physical and Chemical Hazards *
<u>HMIS</u>	Health Hazard 2*	Flammability 1	Physical Hazard 0	Personal Protection -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk.
Environmental Precautions	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment	A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Methods for Cleaning Up	Use clean non-sparking tools to collect absorbed material.
Other Information	Water spray may reduce vapor; but may not prevent ignition in closed spaces.

7. HANDLING AND STORAGE

Handling	Ensure adequate ventilation. Take precautionary measures against static discharges. Keep away from heat, sparks and open flame. No smoking.
Storage	Keep in properly labeled containers. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Limestone 1317-65-3		TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 15 mg/m ³ (vacated) TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³
Asphalt 8052-42-4	TWA: 0.5 mg/m ³		Ceiling: 5 mg/m ³ Ceiling: 0.05 mg/m ³ TWA: 0.015 mg/m ³
Hydrogen sulfide 7783-06-4	STEL = 15 ppm TWA: 10 ppm	(vacated) TWA: 10 ppm (vacated) TWA: 14 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 21 mg/m ³ Ceiling: 20 ppm	IDLH: 100 ppm Ceiling: 10 ppm Ceiling: 15 mg/m ³
Fuels, diesel, no. 2 68476-34-6	TWA: 100 mg/m ³ S*		

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures	Showers Eyewash stations Ventilation systems
Personal Protective Equipment	
Eye/Face Protection	Tightly fitting safety goggles.
Skin and Body Protection	Wear protective gloves/clothing.
Respiratory Protection	None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.
Hygiene Measures	When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black, Viscous.	Odor	Petroleum like.
Odor Threshold	No information available	Physical State	Solid, Aggregate coated by liquid
pH	No information available		
Flash Point	No information available	Autoignition Temperature	No information available
Decomposition Temperature	No information available	Boiling Point/Range	132°C
Melting Point/Range	50°C		
Flammability Limits in Air	No information available	Explosion Limits	No information available
Specific Gravity	2.2-2.4 (Approximately)	Water Solubility	Negligible
Solubility	No information available	Evaporation Rate	No information available
Vapor Pressure	No data available	Vapor Density	No data available
VOC Content	Not applicable		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	Strong oxidizing agents.
Conditions to Avoid	Heat, flames and sparks. Heating can release hazardous gases.
Hazardous Decomposition Products	Hydrogen sulfide.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	No acute toxicity information is available for this product.
Inhalation	There is no data available for this product. Avoid breathing vapors or mists. May cause central nervous system depression.
Eye Contact	There is no data available for this product. May cause irritation.
Skin Contact	There is no data available for this product. Irritating to skin. Repeated exposure may cause skin dryness or cracking. May cause sensitization of susceptible persons.
Ingestion	Low order of toxicity based on components. May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Asphalt	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrogen sulfide			0.701 mg/L (Rat) 4 h 0.99 mg/L (Rat) 1 h

Chronic Toxicity**Chronic Toxicity**

Prolonged exposure may cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. Repeated contact may cause allergic reactions in very susceptible persons. The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence that undiluted, air-refined asphalt is carcinogenic to experimental animals. Limited evidence exists that undiluted steam-refined and cracking residue asphalts is carcinogenic to animals. Additionally, IARC has concluded that there is inadequate evidence that asphalts alone are carcinogenic to humans. Repeated long term skin application of similar petroleum crudes have been shown to cause skin cancer in laboratory animals. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest.

Hydrogen sulfide (H₂S), a colorless, rotten-egg smelling, minor component of this product, can affect the body if it is inhaled or if it comes in contact with the eyes, skin, nose or throat. Odor cannot be used as an indication of its presence since exposure to H₂S causes loss of the sense of smell. Inhalation of high concentrations of hydrogen sulfide (>1000 ppm) may cause coma, convulsions, and death after a single overexposure due to its ability to be a rapidly acting systemic poison that causes respiratory paralysis. Lower and prolonged doses can cause severe respiratory tract irritation and inflammation including eye irritation and damage and central nervous system effects such as headache, fatigue, irritability, insomnia, and stomach upset. Pneumonitis (chemically induced pneumonia) can also occur.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Asphalt			Known	
Fuels, diesel, no. 2	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

NTP: (National Toxicity Program)

Known - Known Carcinogen

Target Organ Effects

Respiratory system, Skin, Central nervous system (CNS).

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Hydrogen sulfide		LC50= 0.016 mg/L Pimephales promelas 96 h LC50= 0.0448 mg/L Lepomis macrochirus 96 h		EC50 = 0.022 mg/L 96 h
Fuels, diesel, no. 2		LC50= 35 mg/L Pimephales promelas 96 h		

Chemical Name	Log Pow
Asphalt	6
Hydrogen sulfide	25

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Asphalt - 8052-42-4	(hazardous constituent - no waste number)			

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

Chemical Name	TSCA
Limestone	X
Asphalt	X
Fuels, diesel, no. 2	X

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Asphalt	8052-42-4	4-6	0.1 1.0

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard Yes

Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):.

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Asphalt		X		
Hydrogen sulfide	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Hydrogen sulfide	100 lb	100 lb

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Limestone	X		X		X
Asphalt	X	X	X	X	X

16. OTHER INFORMATION

Issuing Date	04-Jun-2009
Revision Date	
Revision Note	No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet