GREEN PATCH COLD MIX ASPHALT

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier — Green Patch Cold Mix Asphalt
Chemical Name — Mixture
CAS No. — Mixture

Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s) — Asphalt Pavement Repair
Uses Advised Against — None.

Details of the supplier of the safety data sheet
Company Identification — O&G Industries
112 Wall Street
Torrington, Connecticut 06790

Telephone — (860) 489-9261

Emergency telephone number
Emergency Phone No. — Not classified as dangerous for supply/use. Please contact the supplier above during normal business hours.

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture
OSHA HCS (29 CFR 1910.1200) / GHS Classification — Not classified as dangerous for supply/use.

Label elements
Hazard Symbol — None
Signal Word(s) — None
Hazard Statement(s) — None
Precautionary Statement(s) — None

Other hazards
May cause eye irritation.
Skin contact may increase susceptibility to sunburn.
Mechanical disruption (e.g., milling, cutting, chipping) of cured asphalt pavement may release crystalline silica dust from the aggregate.

Additional Information
Avoid prolonged exposure to (dust/fume/gas/mist/vapors/spray) without adequate ventilation.
As necessary, wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and exposed skin after use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	% wt.	CAS No.
Aggregate (crushed stone, sand, gravel, slag)	70 - 90	Various
Petroleum asphalt / bitumen^	1 - 5	8052-42-4
Reclaimed Asphalt Pavement (RAP)	10 - 20	Mixture

Proprietary additives / softening agent(s)	1 - 2	Trade Secret

^Contains: <0.05% of 3 - 7 ring Polycyclic Aromatic Hydrocarbons (PAHs).

Other Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below. Please see Section 8 of SDS for more details.

- Contains: <0.1% airborne crystalline silica (inherent in aggregate) and <0.1% hydrogen sulfide.
- Hydrogen sulfide gas can accumulate in the head space of containers of certain asphalt products.
- Heated product releases asphalt fume.

Additional Information - None

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation	Not normally required. Move person to fresh air. Apply artificial respiration if necessary. If symptoms persist, obtain medical attention.
Skin Contact	Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye Contact	Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.
Ingestion	Not normally required. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
Most important symptoms and effects, both acute and delayed	None known
Indication of any immediate medical attention and special treatment needed	None known

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or water spray.
-Unsuitable Extinguishing Media	None anticipated.
Special hazards arising from the substance or mixture	Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides
Advice for fire-fighters	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Avoid contact with skin and eyes.
Environmental precautions	Not normally required.
Methods and material for containment and cleaning up	Allow product to cool/solidify and pick up as a solid.

Reference to other sections None
Additional Information None.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

-Storage temperature Store at temperatures not exceeding the product's flash point.
-Incompatible materials Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA) *	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
Asphalt fume	------	------	0.5 mg/m3 (I)	------	------	See below
Crystalline Silica (respirable particulate)	------	0.050 mg/m3 (R) *	0.025 mg/m3 ^	------	------	See below
Hydrogen sulfide	7783-06-4	------	1 ppm	20 ppm ceiling	5 ppm	50 ppm peak

(I) Inhalable benzene-soluble fraction; (R)Respirable fraction; ^Suspected Human Carcinogen; * OSHA Carcinogen - employers must ensure compliance with OSHA 29 CFR 1926.1153 - Respirable Crystalline Silica, as applicable.; TWA = 8 hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method NIOSH 5042 (Asphalt Fume), OSHA ID-142 (Crystalline Silica), Electrochemical sensor (hydrogen sulfide).

Exposure controls

Appropriate engineering controls Use only outdoors or in a well-ventilated area.

Personal protection equipment

Eye/face protection — The following to be used as necessary: Safety Glasses

Skin protection (Hand protection/ Other) — The following to be used as necessary: Leather or thick textile gloves.

Respiratory protection — In case of inadequate ventilation wear respiratory protection. Use NIOSH approved respiratory protection. Air-purifying respirator with combination organic vapor cartridge / particulate filter may be sufficient. Check with protective equipment manufacturer's data.

Thermal hazards — Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls Do not discharge waste and/or cleaning water via public sewer system. Ensure waste is collected and contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color.	Dark brown / Black
Odor	Asphalt / Bitumen
Odor Threshold (ppm)	Not available.
pH (Value)	Not available.
Melting Point (°C) / Freezing Point (°C)	Not available.
Boiling point/boiling range (°C):	> 371 (>700 ºF)
Flash Point (°C)	> 232 (> 450 ºF)
Evaporation Rate	Not available.
Flammability (solid, gas)	Not applicable.
Explosive Limit Ranges	Not applicable.
Vapor pressure (Pascal)	Not determined.
Vapor Density (Air=1)	Not determined.
Density (g/ml)	2.2 - 2.7
Solubility (Water)	Negligible
Solubility (Other)	Not known
Partition Coefficient (n-Octanol/water)	Not available.
Auto Ignition Point (°C)	Not available.
Decomposition Temperature (°C)	Not available.
Kinematic Viscosity (cSt) @ 40°C	Not available
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

Other information Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	May react violently with: Strong oxidizing agents
Conditions to avoid	Incompatible materials
Incompatible materials	Oxidizers
Hazardous decomposition product(s)	Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Information on toxicological effects

Acute toxicity	LD50 (rat): >5000 mg/kg bw LD50 (dermal): >2000 mg/kg bw LC50 (inhalation, fume): >94.4 mg/m^3
Irritation/Corrosivity	May cause irritation to skin, eyes and respiratory system.
Sensitization	Not to be expected
Repeated dose toxicity	NOAEL(rat): 28 mg/m^3 LOAEL (rat): 149 mg/m^3
Carcinogenicity	Not to be expected at typical road paving temperatures.

NTP	IARC	ACGIH	OSHA
No.	Yes.*	No.	No.

Mutagenicity	Not to be expected.
Reproductive toxicity	Not to be expected.

Other information * IARC (2013, volume 103) identifies that “occupational exposures to straight-run bitumens and their emissions during road paving are possibly carcinogenic to humans (Group 2B).” However, classification as a carcinogen under OSHA 29 CFR 1910.1200 is not warranted given the absence of positive cancer findings in human epidemiological studies and in cancer studies with laboratory animals when exposed dermally or by inhalation to asphalt products or fume condensates that are typical of road paving applications. IARC (2013, volume 103) also identifies that “occupational exposures to oxidized bitumens and their emissions during roofing are probably carcinogenic to humans (Group 2A).” Roofing shingles, which are considered an article under OSHA 29 CFR 1910.1200, are sometimes recycled into road paving asphalt mix. Emissions from oxidized bitumen, e.g., from shingles, at road paving temperatures are not expected to be qualitatively different than emissions from straight-run bitumens, and therefore would not warrant a carcinogen classification under OSHA 29 CFR 1910.1200. Contains crystalline silica, an OSHA-regulated carcinogen, inherent in the aggregate. ACGIH classifies crystalline silica as a *Suspected Human Carcinogen* (A2).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Short term	LL50 (48 hour): >1000 mg/l (Fish) LL50 (48 hour): >1000 mg/L (Aquatic Invertebrates) EL50 (48 hour): >1000 mg/L (Aquatic Plants)
Long Term	No data
Persistence and degradability	The product is poorly biodegradable.
Bioaccumulative potential	The product has low potential for bioaccumulation.
Mobility in soil	The product has low mobility in soil.
Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Consult this asphalt producer, permitted waste disposal contractor or the local authority for advice on waste disposal or recycling options.
Additional Information	None known.

SECTION 14: TRANSPORT INFORMATION

Ground or Water Domestic Voyage (DOT): Not regulated when transported below 240°C (464 °F).

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status**:** All components listed or polymer exempt.

RCRA Hazardous Waste Number (40 CFR 261.33): None

US RCRA Hazard Class: Not applicable**.**

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	-----	-----	-----

SARA 311/312 - Hazard Categories: None

☐ Fire ☐ Sudden Release ☐ Reactivity ☐ Immediate (acute) ☐ Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
None	-----	-----

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	TPQ (pounds)
None	-----	-----	-----

SECTION 16: OTHER INFORMATION

Additional Information

The following sections contain revisions or new statements: 1 - 16

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