MATERIAL SAFETY DATA SHEET

Identity: Blacktop, Bituminous Concrete, Asphaltic Concrete

SECTION I

Manufacturer's Name: The Gernatt Companies Dan Gernatt Gravel Products, Inc. Gernatt Asphalt Products, Inc. Country Side Sand & Gravel, Inc.	**Emergency Phone Number:** (716) 532-3371
Address: P.O. Box 400 Collins, New York 14034	**Phone Number for Information:** (716) 532-3371

SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components (Specific Chemical Identity/Common Name(s)):	OSHA PEL	ACGIH TLV	Other Rec. Limits	% (Optional)
Asphalt (Petroleum), approximately 4-8% CAS No. 8052-42-4 RTECS No. CI9900000	Not Established	5* mg/cu.m	-	-
Quartz mineral dust Quartz dust from sand and aggregate products Silicon Dioxide (SiO_2), free silica, CAS No. 14808-60-7 RTECS No. VV7330000	(Crystalline Silica as respirable quartz) $\frac{10 \text{ mg/cu.m}}{\%SiO_2+2}$ (Crystalline Silica as total quartz) $\frac{30 \text{ mg/cu.m}}{\%SiO_2+2}$	(Respirable Dust): 0.1 mg/cu.m	-	-

* By letter of interpretation, OSHA states it would issue a citation if asphalt emissions sampling indicates more than 0.2 mg/cu.m of benzene soluble material which includes at least one carcinogen.

Toxicity Data(Quartz):
Human inhalation, TC_{20}:16 mppcf of air administered intermittently during 8-hr periods over 17.9 years produces pulmonary fibrosis, cough, and difficult breathing.
Human inhalation, TC_{20}:30 ug/cu.m administered intermittently over a 10-year period affects the liver.

SECTION III - - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point (quartz):	N/A	**Melting Point (quartz):**	N/A
Vapor Pressure - quartz (mm Hg):	Negligible	**Specific Gravity (H_20=1):**	2.3-2.4
Vapor Density (Air=1)	N/A	**Evaporation Rate (Butyl Acetate=1):**	N/K

Solubility in Water: Negligible

Appearance and Odor: Black semi-solid coarse aggregate mixture with asphalt. Tar odor.

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point Method Used): >400°F	**Flammable Limits:** N/K	**LEL:** N/K	**UEL:** N/K

Extinguishing Media: Dry chemical, foam, CO2. Water fog on flat surfaces.

Special Fire Fighting Procedure: Avoid water streams (causes frothing), avoid breathing fumes, use full protective equipment, including SCBA.

Unusual Fire and Explosion Hazards: Asphalt will burn with intense heat. Hazardous decomposition products: fumes, smoke, hydrogen sulfide.

SECTION V - - REACTIVITY DATA

Stability	**Unstable**		**Conditions to avoid:**
	Stable	X	Flame may cause profuse smoke or fire.

Incompatibility (Materials to Avoid): Powerful oxidizing agents such as flourine, chlorine, hydroflouric acid

Hazardous Decomposition or Byproducts: Hydrogen Sulfide, Sulfur Dioxide, Carbon Monoxide, Fumes, Smoke

Hazardous Polymerization			**Conditions to Avoid:**
	May Occur		
	Will Not Occur	X	None

SECTION VI - - HEALTH HAZARD DATA

Summary of Risks: Blacktop is normally shipped hot, protect against burns. Studies in which mice were exposed to a variety of asphalts did not result in any increase in cancer rates. Prolonged exposure to respirable crystalline quartz from grinding, sawing, or crushing blacktop may cause a delayed chronic lung injury (silicosis). Simple silicosis occurs after 20+ years exposure, accelerated silicosis after 5 to 15 years, and acute silicosis occurs after 1 to 3 years. Silicosis symptoms include the formation of nodules of scar tissue in the lungs.

Routes of Entry: **Inhalation?** Yes **Skin?** Yes **Ingestion?** Yes

Health Hazards: Crushing, rapid grinding or sawing may result in the release of dust particles which may cause:
(a) Acute - - exposure can cause irritation to eyes and nose. Inhalation can irritate nose, throat, lungs, cause soughing, shortness of breath.
(b) Chronic - - prolonged exposure to excessive amounts of silica may result in lung disease (silicosis).

Carcinogenic: NTP? No **IARC Monographs** See notes on page 3 **OSHA Regulated?** See notes on page 3

Signs and Symptoms of Exposure: Irritation of skin, shortness of breath, difficulty breathing with or without exertion coughing, diminished work capacity, diminished chest expansion, reduced lung volume. Exposure to hydrogen sulfide gas can cause respiratory irritation, headache, dizziness, and nausea. Ingestion may cause nausea, cramps, vomiting and diarrhea.

Medical Conditions Generally Aggravated by Exposure: N/K

Emergency and First Aid Procedures:
(a) Eye contact with fumes: rinse with water for 15 minutes, occasionally lifting upper and lower eyelids. Consult physician if irritation persists.
(b) Skin contact: flush with cold water for 15 minutes, wash with soap and warm water. Consult physician if burns or irritation occur, Removal from skin is aided with waterless hand cleaner.
(c) Inhalation: remove to fresh air; if breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm and quiet.
(d) Ingestion: low order of acute oral toxicity unless moderate to large amounts are consumed. Don't induce vomiting. Give milk or olive oils. Obtain medical attention.

SECTION VII - - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Cool to a solid state and remove. May require protective equipment to prevent skin exposure.

Waste Disposal Method: Dispose waste materials in accordance with federal, state and local law and regulations.

Precautions to be Taken in Handling and Storing: Contact with hot blacktop may cause burns. Avoid bare skin contact. Avoid breathing fumes unnecessarily. Don't store or mix with strong oxidants like liquid chlorine, heat, sparks, or flames.

Other Precautions: Wear NIOSH or MSHA approved respirator and tight fitting goggles when grinding or crushing blacktop. Do not enter confined spaces or controlled areas without monitoring for H2S gas.

SECTION VIII - - CONTROL MEASURES

Respiratory Protection (Specify Type): NIOSH/MSHA approved respirator if exposure is a concern.

Ventilation	**Local Exhaust:** Provide ventilation to maintain below TLV.	**Special:** N/A
		Other: N/A

Protective gloves: Recommended	**Eye Protection:** Recommended
Other Protective Clothing or Equipment: Coveralls recommended, long sleeves and pants and safety shoes to avoid skin exposure.	
Work/Hygienic Practices: Avoid contact with skin. Avoid breathing fumes or ingestion. Avoid breathing dust from aggregates. Remove from skin with soap and warm water.	

NOTE: Under certain circumstances sulfur compounds in hot asphalt may form hydrogen sulfide (H_2S) gas. Cooling asphalt may continue to emit traces of H_2S temporarily from entrapped or dissolved gases. H_2S is colorless toxic gas with an odor at low concentrations characteristic of rotten eggs and a sweetish odor at high concentrations (e.g. 100 ppm). Odor cannot be relied on as a means of detection because the sense of smell rapidly becomes insensitive to H_2S, and a H2S odor may be masked by the general odor of hot asphalt. Because H_2S may accumulate in tanks and bulk transport compartments, personnel should stand upwind, keep their faces at least two feet from compartment openings, and avoid breathing vapors when opening hatches and dome covers. (In a large number of tests, permissible concentrations in the breathing zone were not exceeded following this procedure. Prolonged breathing of 50 to 100 ppm of H_2S may produce eye and respiratory tract irritation, headache, nervousness and nausea, and only a few breaths of high concentrations (e.g. 700 to 1000 ppm) may lead to unconsciousness and could be fatal.

To avoid possible inhalation toxicity, the American Conference of Governmental Industrial Hygienists (ACGIH) has adopted a Threshold Limit Value of H_2S of 10 ppm in air as time-weighted average for an 8-hour workday. OSHA Regulation 29 CFR 1910.1000 further lists a ceiling concentration of 20 ppm, and a maximum peak of 50 ppm for 10 minutes once per day if not other measurable exposure occurs. NIOSH-approved respiratory equipment should be used when permissible concentrations are exceeded.

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Abbreviations Used in Material Safety Data Sheet

mg/cu.m	Milligrams per cubic meter of air
mmHg	Millimeters of mercury (a measure of vapor pressure)
OSHA PEL	Occupational Safety and Health Administration Permissible Exposure Level
ACGIH TLV	American Conference of Governmental Industrial Hygienists Threshold Limit Value
LEL	Lower explosive limit of a vapor or a gas
UEL	Upper explosive limit of a vapor or gas
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer of the World Health Organization
NIOSH	National Institute for Occupational Safety and Hazard
MSHA	Mine Safety and Health Administration
N/A	Not applicable
N/K	Not known

Issue date: 4/2/98 Revision date: