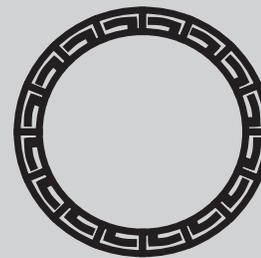


Natural dye pigments
Material Safety Data Sheet



KAMA
PIGMENTS

Bitumen asphaltum

Product Identification

Product Name	Bitumen asphaltum
product code	PS-NA0020
use	Dye

Hazard Identification

Bitumen	A notice of danger is not required for this product by "OSHA hazard communication standard" (29 CFR 1910.1200)
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First Aid

eyes	no first aid procedure is required. However, as a precautionary measure, flush eyes with water for 15 minutes. Remove contact lenses
skin	no first aid procedure is required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing
inhalation	move the person to a ventilated area if signs or symptoms as described in this sheet appear. If effects occur, consult a doctor
ingestion	no problem with the ingestion is not expected, no first aid procedure is required

Hazard Identification

Contact with eyes	the abrasive action of the dust may cause eye irritation. The severity of injury depends on the amount of product that comes into contact with eyes and speed to carry first aid. Pain, tearing, swelling, redness and blurred vision are some of the signs and symptoms. The hazard assessment is based on data from similar products
Contact with skin	no significant or prolonged irritation expected. The hazard assessment is based on data from similar products
Dermal toxicity	no data available

inhalation inhalation of dust concentrations above the exposure levels can cause respiratory irritation. The respiratory tract irritation may include, but not limited to, one or more of the following signs or symptoms: runny nose, sore throat, cough, bronchitis, pulmonary edema and respiratory difficulties

ingestion The systemic toxicity of this product is not determined

prevention against exposure / personal protection

eyes Do not put this product into the eyes. The contact can be avoided by wearing safety glasses

skin No special protection is required

inhalation No special protection is not normally required. However, if the operating conditions generate a large concentration of dust, use a respirator is recommended

ventilation No special ventilation is usually required. However, if the operating conditions generate a large concentration of dust, a special ventilation may be required

Fire Fighting Measure

Flash point (° C) 599 F (COC)

autocombustion n.d.

inflammability n.d.

Extinguishing media CO2, dry chemical, foam, water spray

NFPAG evaluation Health 0, Flammability 1, Reactivity 0 Special NES (low 0, 1 light, moderate 2, 3 high, extreme 4). These values are obtained using the guidelines or published evaluations by the "National Fire Protection Association" or, where appropriate, by the "National Paint and Coating Association"

Procedures for fire fighting When fighting fires involving this material, do not enter the fire of closed or confined areas without proper protective equipment, including self-contained breathing apparatus

Products of combustion Normal combustion produces carbon dioxide, water vapor and may produce nitrogen oxides. Incomplete combustion can produce carbon monoxide

Handling, Storage and reactivity

Hazardous decomposition products n.d.

stability stable

hazardous Polymerization does not occur

incompatibility may react with strong oxidizing agents such as chlorates, nitrates, peroxides, etc..

special Precautions

dust are prone to combustion or explosion if they come into contact with sparks, open flame or temperatures exceeding 1000 F (570 C). Any potential source of sparks or ignition should be moved before spraying or any other method that generates dust. If prolonged exposure to vapor distillates or solids at temperatures above 550 F (288 C) exposure is expected, wearing clothing and a respirator is recommended

Physical and Chemical Properties

solubility	soluble in various solvents or petroleum chloride
appearance	black solid
Boiling point	n.d.
Melting point	275-400 F (135-205 C)
evaporation	n.d.
density	1.04 - 1.06
Vapor pressure	n.d.
Percentage of volatile product (% volume)	2% at 325 F (163 C) for 5 hours
Vapor Density (Air = 1)	n.d.

Emergency Information

emergency number 24 hrs	Chemtrec (800) 424-9300
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Accidental Release Measure**preventive measures**

it is not intended that this product poses a danger to the environment. Clean up spills immediately, observing precautions outlined in the "Protective Equipment" section.

Methods of disposal: Place contaminated materials in containers and dispose of materials recovery in accordance with environmental regulations. Contact the environmental and health authorities for proper disposal of this product

exposure standards, regulatory limits and composition**Comments on the composition**

All components of this product are on the list of "Toxic substances control act chemical substances inventory." According to the information received to date, it is the definition of nuisance dust of "ACGIH". The exposure rate "ACGIH TLV" is 5 mg/m³ and rate "STEL" 10 mg/m³. The respirable dust levels "OSHA PEL" is 5 mg/m³. The percentages of composition are given to reflect the different ranges of all the components present in the product and may not be 100%

Percentage / CAS / regulatory limits

100.0% 100.0% resin bitumen containing hydrocarbon (black solid). CAS 12002-43-6

Regulatory Information

Shipping Name (DOT)	is not listed as a hazardous substance by the "Department of Transportation" federal
Hazard classification (DOT)	non-hazardous
Identification (DOT)	n.d.
SARA 311 Categories	
Immediate health effects (acute)	not
Health Effects delayed (chronic)	not
Fire Hazard	yes
Danger of sudden depressurization	not
Reactivity Hazard	not

When a component of this product is listed in this section, the regulatory lists on which it appears are listed

regulatory Lists

01 - SARA 313 02 - MASS RTK 03 - NTP carcinogen
 04 - CA Prop. 65 05 - MI 406 06 - IARC group 1
 07 - IARC Group 2A 08 - IARC group2B 09 - SARA 302/304
 10 - PA RTK 11 - NJ RTK 12 - CERCLA 302.4
 13 - MN RTK 14 - 15 ACGIH TLV - ACGIH STEL
 16 - ACGIH TLV calculated 17 - OSHA PEL 18 - OSHA STEL
 19 - 20 EPA carcinogen - SECT TSCA April 21 - SECT 5 TSCA SNUR
 22 - SECT 6 TSCA RULE 23 - SECT 12 TSCA export 24 - SECT 8A TSCA cair
 25 - SECT TSCA 8D REPORT 26 - SECT TSCA 8E 27 - Canadian WHMIS

Toxicological Information

eyes	no toxicological data available. The hazard assessment is based on data from similar products
skin	no toxicological data available. The hazard assessment is based on data from similar products
Dermal toxicity	no toxicological data available. The hazard assessment is based on data from similar products
inhalation	no toxicological data available. The hazard assessment is based on data from similar products
ingestion	no toxicological data available. The hazard assessment is based on data from similar products

health additional information

No significant effects were observed in a chronic feeding study conducted by the "National Toxicology Program (NTP)" in which mice and rats were fed a diet containing either 2% or 4% of all bitumen their lives. In another study, 10% of benzene in the bitumen applied three times per week for 80 weeks on the skin of mice did not cause any increase in the cancer group compared with the control. In a third study, a sample of bitumen heated to 550 F (288 C) and cooled did not demonstrate mutagenic in the Ames test. The "National institute for occupational safety and health" has not been able to detect polycyclic aromatic hydrocarbons in the bitumen. The information presented above suggests that the bitumen has a low toxicity and is not a carcinogen.

Although the canary ER is not a carcinogen , the process in which the bitumen is brought to a very high temperature can alter its complex hydrocarbon structure and can produce carcinogens. Thermal cracking of a hydrocarbon complex is known as producing polycyclic aromatic hydrocarbons, some of them known to be carcinogenic and mutagenic . Ames tests for mutagenicity were made on samples of bitumen heated. A heated to 650 F (343 C) and allowed to cool sample showed mutagenicity . In another study , the bitumen distilled at approximately 2500 F (1371 C) and dissolved in benzene was carcinogenic in the mouse skin when applied 3 times per week for 80 weeks .

Handling ER resin is not expected to cause cancer . However, contact with skin or inhalation of vapor or mist derived from certain processes during which the ER resin is heated to high temperatures should be avoided. Please refer to the "Special precautions " section of this document

Other information

Autre Information

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Kama pigments Sales Office.

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