

SAFETY DATA SHEET

A. Identification of the Substance / Preparation and of the Company Undertaking

Product Name: SpEC Black Bitumen Paint

Company: Speciality Engineering Chemicals

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B. Composition / Information on Ingredients

Composition : solution of bitumen in solvent

Hazardous Ingredient(s)	Risk Phrases	Other Information	%
White spirit	R20/R36/R38	CAS No : 64742-82-1	40
Kerosene (petroleum)*	R51	CAS No : 232-366-4	

C. Hazards Identification

Irritant
Harmful
Dangerous for the environment



D. First Aid Measures

Inhalation: If inhalation mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical advice.

Casualties suffering ill effect as a result of exposure to hydrogen sulfide should be immediately removed to fresh air and medical assistance obtained without delay. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.

Eyes: Cold Product - wash eyes thoroughly with copious quantities of water, ensuring eyelids open are held open. Obtain medical advice if any pain or redness develop or persists.

Hot Product - flood with water for at least 5 minutes to dissipate heat. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Obtain burns medical attention immediately.

Skin: Where skin burns occur flood with water for at least 10 minutes to dissipate heat. Do not attempt to remove from the skin as it provides an airtight, sterile covering over the burn which will eventually fall away with the scab as burn heals. All burn should received medical attention, it should be noted that bitumen stiffens on cooling and, where a limb is encircled, tissue swelling may cause a tourniquet effect. In the event of this occurring the adhering must be softened and/or split to prevent restriction of blood flow.

E. Fire Fighting Measures

Suitable Extinguishing Media:	Dry chemical powder, foam, inert gas, carbon dioxide, water spray (fog), sand or earth. Water jets were never used. The use of Halon® extinguisher should be avoided for environmental reason
Special Specific Hazards :	Boil-over of tanks and violet eruption in the presence of water (splatter of hot material). Respiratory problems or nausea by excessive exposure to SpEC Black Bitumen Paint fumes. Burning SpEC Black Bitumen Paint gives rise to a complex mixture of gases airborne particles including carbon monoxide and sulfur oxides.
Special Protective Equipment:	Proper equipment (gloves, shoes, goggles or self contained breathing apparatus).
Other Information:	Keep adjacent containers cool by spraying with water. Hot product can cause violent eruptions in contact with water and may splatter hot material.

F. Accidental Release Measures

Personal Precautions:	In confined spaces, do not allow water or other liquids to contact hot product. Hot product should be handled so that there is no risk of burns. Ventilate contaminated area thoroughly. Remove ignition sources Shut off leaks if possible without personal risk.
Environmental Precautions:	Prevent spillage to drain
Clean-up Materials:	Small Spill - allow cooling and solidifying. Remove mechanically into containers for disposal or reclamation in accordance with local regulations.

G. Handling and Storage

Handling:	Typically handled and stored as a liquid, which means elevated temperatures (>100 °C). Often handled and applied above their flash point. Keep away from sources of ignition. Avoid contact (skin burns) and breathing fumes (irritation of respiratory tract) When using do not eat, drink or smoke. Clean, dry and heat resistant hoses (free of twists, etc) should be used. Do not use steam to empty pipelines and hoses.
Storage:	May form flammable or explosive vapour air mixture during storage and use. Prevent ingress of water. Tanks must be specifically designed for use with product. Carbonaceous deposit may develop on walls and roof of Stanks which may be pyrophoric and may self-ignite. Hydrogen sulfide may accumulate in tanks during long term storage at high temperatures. Proper ventilation is required (vents should not terminate near windows or air inlet).
Precautions during Discharge from Bitumen Tanks:	It is being pumped from a storage tank or road tank. Care should be taken to avoid the risk of fire or explosion as a result of exposing hot heaters tubes. Electrostatic charges may be generated during loading. Ensure electrical continuity by bonding all equipment. Tanks may be heated by hot oil, steam, electricity or flame tubes. Under circumstances it is being pumped from a tank containing heater tubes precautions should be taken to prevent the level dropping below 150mm above the tubes unless the heat has been switched off for a period of sufficient cooling. The bulk temperature during handling should be kept as low as possible, consistent with efficient discharge and at no time should it exceed the maximum temperature recommended by the supplier. A check should be made to ensure that the receiving tank has sufficient space to accommodate the load.

H. Exposure Controls / Personal Protection

Engineering Control Measures: Use only in well ventilated area.
Exposure to fumes should be minimized.

Control Parameters: In the absence of any national or local regulations the following controls are recommended:

<u>Name</u>	<u>Type</u>	<u>Value</u>	<u>Other Inf.</u>	<u>References</u>
Bitumen	8h TWA	0.5mg/m ³	BE-IP ¹	ACGIH
Bitumen Fume	10m STEL	5mg/m ³	TPM ²	NIOSH
H ₂ S	8h TWA	14mg/m ³		ACGIH
H ₂ S	10m STEL	21mg/m ³		ACGIH
Trimethylbenzene	8h TWA	123mg/m ³		ACGIH
Naphthalene	8h TWA	53mg/m ³		ACGIH
Nonane	8h TWA	1050mg/m ³		ACGIH
Stoddard Solvent	8h TWA	525mg/m ³		ACGIH

Personal Protective Equipment: Wear protective clothing for normal operation with hot material, such as heat resistant coveralls (with legs over boots and cuffs over gloves), heat resistant gloves, and heavy duty boots.
Coveralls should be cleaned as necessary to avoid permeation of the product to under clothing.
Good personal hygiene in respect of hands and under clothing should always be maintained in the course of work.
If splashing is likely then additional requirements are:
Full head and face protection (protective screen and/or safety goggles) and neck cloth.

Respiration Protection: Is not required under normal conditions of use and with adequate ventilation. In the event of an inhalation risk from vapour, fume or mist, wear a respirator fitted with an organic vapour cartridge combined with a particulate pre-filter. Use approved respiratory protective equipment in spaces where hydrogen sulfide vapours may accumulate, or where it is possible that Exposure Limits might be exceeded.

I. Physical and Chemical Properties

Appearance

Physical State: Semi Solid at ambient temperature, Liquid at normal handling temperatures
Colour: Black
Odour: Petroleum spirit

Specific Temperature of Change of Physical State

Enter Appropriate Data Distillation Characteristics: Initial Boiling Point - to be entered
S.G. @ 20 °C: 0.92 ± 0.02
Flash Point (closed °C): >38 °C PMMC to be entered
Vapour Pressure: Negligible at ambient temperature
Vapour Density: 900 to 1100kg/m³ at 25 °C depending upon upgrade
Kinematics Viscosity 70-140Cst @ 60c

Solubility

Water Solubility: Insoluble, non miscible
Organic Solvent: Soluble in many organic solvents
Fats: Partly soluble

Explosive Properties: When overheated product may evolve flammable vapours that can lead to explosive atmosphere

Contact of hot product with water can lead to explosive tank rupture due to steam formation

Upper Explosion Limit (White spirit): 8.0% Vol.
Lower Explosion Limit (White spirit): 0.8% Vol.
Flammability (White spirit): Flammable
Auto-ignition temp.: 230°C (White spirit)

J. Stability and Reactivity

Stability: Stable.

Conditions to avoid: Excessive heating above the maximum handling and storage recommended temperatures will cause cracking and evolution of flammable vapours. Avoid source of ignition.

Materials to avoid: Do not allow molten product to contact water or other liquid. Oxidizing agents, strong acids, alkalis, halogens.

Hazardous decomposition products: None expected under normal conditions of use.
Thermal decomposition :- Oxides of carbon.

K. Toxicological Information

Acute Toxicity: Existing data and extrapolation from data on the other petroleum products indicates that the toxicity is likely to be low.

Oral - LD50 expected to be above 2000mg/kg
Dermal - LD50 expected to be above 2000mg/kg
Inhalation - not considered being an inhalation hazard under normal condition of use

Inhalation: The fumes may lead to slight irritation of the upper respiratory tract.

Sensitization and Irritation: Expected to be slightly irritated.
Not expected to be skin sensitizer.

Chronic Toxicity: Present to chronic hazard at ambient temperatures, but they do contain very low concentrations of Polycycli Aromatic Compounds. (PAC's). In diluted bitumen PAC's are not considered to be bio-available. There is limited evidence in animals that some diluted with solvents, may be weakly carcinogenic to the skin. Such activity is believed to be release, by the solvent, Polycyclic Aromatic Compounds (PAC's) which are found in ppm quantities in bitumen. Studies in our laboratories have indicated that BID SpEC Black Bitumen Paint is unlikely to carconogenic. However, it is recommended that all necessary exposure to be reduced as far as practicable. Under normal conditions of use skin contact is expected to be limited by the high temperatures needed to work the material. The safety hazard, therefore, normally limits any chronic skin hazard.

L. Ecological Information

Environmental Effect: Eco-toxicological data have not been determined specifically for this product. Information given is based on knowledge of the eco-toxicology of similar products. When used and disposed of as intended, no adverse environmental effects are foreseen.
Contains one constituent which is classified as dangerous for the environment (R51/53 - Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment)

Mobility: Ground - part of the material will evaporate from soil surfaces, but a significant proportion will remain after one day. It is not very mobile and will remain on the soil surface or penetrate a few millimeters.

Water - It will sink or float depending upon the density. The lighter the components will either evaporate to air, or will dissolve. Dissolve components will be either absorbed in sediments or evaporate to air. In aerobic, water and sediments they will biodegrade, but in anaerobic will condition they will persist. These components have a

high potential to bio-accumulate, but are unlikely to persist in the aquatic environment for sufficient time to pose significant hazards. The heavier the components will persist in the environment for a considerable period of time, but the molecular weight is so high that they will not bio-accumulate.

Persistence and Degradability: Degradation is very slow. Under normal circumstances the product will remain in place.

Bio-accumulative Potential: It contains components with the potential to bio-accumulate.

Ecotoxicity: May cause physical fouling of aquatic organisms.
Toxic: LC/EC > 100 mg/l to aquatic organism (estimated)

M. Disposal Considerations

Waste from Residue

Methods for Safe Disposal: Not classified as hazardous waste.
Recycling is recommended.
Dispose in conformance with national and local regulations.

Contaminated Packaging

Methods for Safe Disposal: Through authorized contractor or collector

N. Transport Information

Cold: Information is determined by composition - comply with national international legislation.

Hot: Conform to local requirements, if none exist recommended:

UN Number: 3256

UN Class / Packaging Group: 3/III

UN Proper Shipping Name: Elevated

Temperature Liquids, n.o.s. (with flash point above 60.5 °C at or above its flash point)

ADR/RID Class/Item: 3/32(c)

ADR/RID Symbol: Flammable liquid

ADR/RID Proper Shipping Name: Elevated

Temperature Liquids, n.o.s. (with flash point above 60.5 °C at or above its flash point)

O. Regulatory Information

EC Classification: It is not classified supply purposes as supplied. However, it is classified as dangerous for conveyance by roads and most modes of transport dependant upon flash point and carrying temperature.

EINECS (EC) All components listed

*This product is supplied on the understanding that it will be used in the manner for the purpose(s) specified in the Product Data Sheet, the user having taken all precaution stipulated.

Failure to follow such directions may adversely affect any rights that the user might have against the Company. Before the application other than as directed, advice must be obtained from the company.

P. Other Information

No liability accepted for any injury, loss, damage or cost arising directly or indirectly from the use of any information contained within this MSDS since the customer's treatment of the product is necessarily out of our control.

The data given above is based upon current knowledge and experience. This safety sheet is intended to describe our products in terms of their safety requirements. It does not guarantee the properties of the products described.