

Asphalt Deferred Set

Material Safety Data Sheet (MSDS)



1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/ UNDERTAKING

Substance name: ASPHALT – DEFERRED SET.

Other Hanson asphalt products are covered by separate Material Safety Data Sheets.

2. HAZARD IDENTIFICATION

NOT classified as dangerous in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations.

However, please note the following:

Deferred set asphalt contains flux oil, which may be present in quantities of up to approximately 2%. Flux oil in liquid state carries a risk of aspiration, which can lead to rapid and possibly fatal lung damage, and has the hazard classification:

Xn R-65 Harmful: may cause lung damage if swallowed' (In accordance with Directive 67/548/EEC)

GHS08 Health Hazard H304: May be fatal if swallowed and enters airways (in accordance with Regulation (EC) 1272/2008)

Once the flux oil is mixed with bitumen and aggregate, it is not expected to be likely to enter the lungs, so the finished product 'Deferred Set Asphalt is not classified as dangerous.

The following additional hazards should also be considered:

- Deferred set asphalt is produced at elevated temperatures (up to a typical maximum of 120°C). Hot materials may burn the skin.
- Fumes from Asphalt are unlikely to be hazardous when laid in open air situations, but there may be a risk to health by continuous inhalation of high vapour concentrations which might arise in poorly ventilated, confined or semi-confined spaces.
- Dusts containing Respirable Crystalline Silica (quartz) present a greater hazard. Long-term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.
- The quartz content of the product will vary, and is related to the type of aggregate used in the production of the asphalt. Advice on the quartz content and other chemical information is available from the supplying unit.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Deferred set asphalt is a mixture of aggregate and fluxed bitumen or bitumen emulsions. Bitumen is a hydrocarbon derived from the distillation of petroleum crude oil, but may be synthetic or modified by the use of polymers and other chemicals. Flux oil added to the bitumen is usually petroleum based, and will typically be in the range of 0.7 to 1.8% of the finished product. Water based emulsions will usually be <10% of the finished product. Other additives may be used to modify the characteristics of the finished product.

Aggregates used in asphalt may naturally occurring (eg limestone, gritstone, granite, sand etc), artificial (eg slag aggregates) or recycled (eg road plainings, inert construction and demolition waste, glass etc).

Hazardous ingredients table

Substance name	EC No	%	DSD Classification	CLP Classification
Crystalline Silica*	238-878-4	Variable	Xn; R48/20	H372; STOT RE1

4. FIRST AID MEASURES**Inhalation:**

Immediately remove to fresh air. If breathing difficulties are experienced, seek medical attention. If breathing has stopped, commence artificial resuscitation and seek medical attention immediately.

Skin Contact:

Burns caused by contact with hot material should be cooled by immediately flushing with large amounts of cold water. Do not attempt to remove anything from the burn area unless required to allow breathing. Seek medical attention.

Bitumen may be removed under medical supervision. If skin contact if made without burns, remove soiled clothing and wash skin with soap and water.

Eye Contact:

If material is hot, apply the same measures as 'skin contact' above. If the material is cold, Immediately and thoroughly irrigate with eye wash solution or clean water. If symptoms develop or persist, seek medical attention.

Ingestion:

Do not induce vomiting to avoid the risk of material entering the respiratory tract (aspiration). Get immediate medical attention.

Aspiration:

If the product is believed to have entered the lungs (eg as a result of vomiting), take the person to hospital immediately for medical treatment.

5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Dry powder, foam.

Unsuitable Extinguishing Media

Do not use water. CO2 is also not suitable.

Special Exposure Hazards in Fire

Hydrocarbon fumes may be released, along with other hazardous combustion products including smoke.

Special Protective Equipment for Fire Fighters

Proper protective equipment including suitable respirators or breathing apparatus must be worn.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Wear overalls, heat resistant safety boots and heat resistant, impervious gloves. Wear suitable respiratory protection in poorly ventilated or enclosed spaces. Keep away from ignition sources. See Section 8 for guidance on personal protective equipment. See Section 7 for guidance on handling the product.

Environmental Precautions:

Prevent asphalt from entering watercourses, ditches and drains.

Methods for Cleaning:

Scrape up using suitable mechanical methods. Bitumen may be removed from tools and machinery with a proprietary bitumen remover, but ensure you refer to the suppliers Material Safety Data Sheet before using.

7. HANDLING AND STORAGE

Handling

Skin contact with the product should be avoided. Avoid breathing in vapours or fumes.

If the formation of vapours is a risk, then additional ventilation should be provided. Hands should be washed thoroughly before handling or eating food or drink.

Handle away from sources of ignition and heat. Do not smoke, eat or drink during use.

Storage

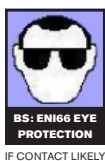
Keep away from heat. Use only hydrocarbon resistant containers. Asphalt is normally used upon receipt.

Refer to the relevant Material Safety Data Sheet for the specific product.



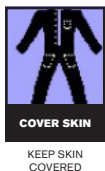
Hand Protection:

Liquid-proof aliphatic solvent resisting, heat resistant gloves should be worn.



Eye Protection:

Goggles should be worn if there is a risk of product entering the eyes (including dust).



Skin Protection:

Overalls and/or long-sleeved jackets and full length trousers should be worn to protect skin from burns. Clean overalls as necessary to prevent product permeating to clothing or skin underneath. Heat resistant safety boots should be worn. The use of skin barrier cream is also recommended.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Take Measures to Prevent

- a. Inhalation of vapours/fumes.
- b. Inhalation of excessive quantities of dust during cutting, drilling, planing or surface treatment of hardened asphalt.
- c. Accidental ingestion of product.

Exposure Control Limits / Source

Asphalt Fumes	W.E.L.	5mg/m ³	8 Hrs	T.W.A.
Asphalt Fumes	W.E.L.	10mg/m ³	15 Min	T.W.A.
Oil Mist (flux oil)	W.E.L.	5mg/m ³	8 Hrs	T.W.A.
Total Dust	W.E.L.	10mg/m ³	8 Hrs	T.W.A.
Respirable Dust	W.E.L.	4mg/m ³	8 Hrs	T.W.A.
Respirable Quartz (Crystalline Silica SiO ₂)	W.E.L.	0.1mg/m ³	8 Hrs	T.W.A.

W.E.L. = Workplace Exposure Limit

T.W.A. = Time Weighted Average

Inhalation

S51 - Use only in well-ventilated areas.

Eyes, Skin & Hands

S36/ 37/ 39 - Wear suitable protective clothing, gloves and eye / face protection.

Control Measures

Dust caused by cutting or planing hardened asphalt should be controlled by containment, suppression and extraction/ filtration where possible.

Deferred set asphalt should only be laid in well ventilated areas.

Respiratory Protection

Always ensure adequate ventilation and avoid breathing vapour/ fumes. Suitable respiratory protection should be used if required to ensure exposure is below the Workplace Exposure Levels given at the start of this section.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pigmented or natural aggregate coloured, granular solid
Odour	Strong, characteristic
pH	Neutral
Boiling Point / Range	Not applicable
Melting Point / Range	Not applicable
Flash Point	Above 130°C
Auto Flammability	Above 230°C
Flammability	Lower = 1%, upper = 6%
Explosive Properties	Not determined
Oxidising Properties	Not determined
Vapour Pressure:	Not applicable
Relative Density:	Above 2.0
Water Solubility:	<1%
Fat Solubility:	Not determined

10. STABILITY AND REACTIVITY

Conditions to Avoid

Sources of ignition and temperatures above 130°C.

Materials to Avoid

Strong oxidising agents, e.g. chlorates which may be used in agriculture.

Hazardous Decomposition Products

The substances arising from the thermal decomposition of the bitumen binder and flux oil used in deferred set asphalt will largely depend on the particular conditions but may contain the following: Hydrogen Sulphide, Carbon Dioxide, Carbon Monoxide, Water, Particulate Matter (including soot), Sulphur Oxides, Polycyclic Aromatic Hydrocarbons, Unburnt Hydrocarbons, Nitrogen Oxides, Aldehydes, Vanadium Pentoxide.

11. TOXICOLOGICAL INFORMATION

Inhalation:

Inhalation of respirable dust from aggregate contained in asphalt whilst cutting or planing hardened asphalt can lead to respiratory system damage and disease. Inhalation of fumes over a prolonged period may cause irritation of the respiratory system.

Bitumen used in deferred set asphalt may release small amounts of hydrogen sulphide gas. With good general ventilation, this is not likely to cause any problems, but in poorly ventilated enclosed spaces, concentrations may build up to hazardous levels.

Skin Contact:

Prolonged skin contact may cause dermatitis and malignant warts.
Contact with hot asphalt may cause burns.

Eye Contact:

Product entering the eyes may cause irritation. Contact with hot asphalt may cause burns.

Ingestion:

Ingestion is very unlikely, but if swallowed accidentally, flux oil in the product may enter the lungs and lead to rapid and serious lung damage through pulmonary lesions. Seek medical attention immediately. Medical survey for at least 48 hours.

12. ECOLOGICAL INFORMATION

Environmental Assessment:

When used and disposed of as intended, no environmental effects are foreseen, and asphalt should not pose an ecological hazard.

Mobility:

Low mobility. Will sink in water and form a solid layer on the surface of the ground.
Flux oil component will spread on water.

Persistence and Degradability:

Resistant to degradation and will persist in the environment.

Ecotoxicity (flux oil):

Acute toxicity. LC50 96 hours fish > 100 mg/l
Biodegradability. OECD test. 28 days 61 %
Bioaccumulable.

13. DISPOSAL CONSIDERATION

Safe Handling of Residues / Waste Product:

Asphalt made with bitumen is classed as 'inert' but should be disposed of in accordance with local and national legal requirements. Hardened asphalt can be readily recycled.

14. TRANSPORT INFORMATION

Special Carriage Requirements:

Not classified as dangerous for transport. Product should be kept covered.

Flammable materials, and containers that do or may become pressurised should be kept away from hot asphalt to avoid the risk of fire and explosion.

15. REGULATORY INFORMATION

Hazard Statements:

H317 – May cause skin irritation

H335 – May cause respiratory irritation

H314- May cause skin burns

Precautionary Statements:

P261 – Avoid breathing dust/fume/vapours.

P271 – Use only outdoors or in a well ventilated area.

P281 – Use personal protective equipment as required (see Section 8)

16. OTHER INFORMATION

Training Advice:

Wear and use of PPE.

Recommended Uses and Applications:

Industrial and construction applications.

Further Information:

Head of Safety, Health & Environmental

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Key Data Used to Compile Data Sheet:

HSE Guidance Note EH40/2007

PPE Regulations 1992

COSHH Regulations 2002

Environmental Protection Act 1990

HSE Crystalline Silica EH59

Further copies of this Material Safety Data Sheet may be obtained from Hanson UK.

Prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006

17. DISCLAIMER

The information in this Material Safety Data Sheet was believed to be correct at the time of issue. It does not, however, give assurances of product properties and establishes no contract legal rights.

If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and any of the precautions which should be taken.

This Material Safety Data Sheet does not constitute the user's own assessment of workplace risk, and it is the user's sole responsibility to take all necessary safety precautions when using this product.

The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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