6.32 MSDS of ASPHALT VG 30

Section 1: Chemical Product and Company Identification	
1.1 Chemical Product Identifiers:	
1.1.1 Chemical Name	Bitumen VG 30
1.1.1.1 Trade Name	Asphalt
1.1.2 CAS No.	8052-42-4
1.2 Relevant identified uses of the chemical product and uses advised against	
Relevant identified uses	road and highway paving applications waterproofing and sealing applications coatings fuel Lubricants
Uses advised against	None
1.3 Details of the supplier of the safety data sheet	
1.3.1 Company Name	Hindustan Petroleum Corporation Limited
1.3.2 Address	HPCL Mumbai Refinery, B D Patil Marg Chembur, Mumbai-400074
1.3.3 Contact No.	022-25076605
1.3.4 Contact person in emergency	Fire & Safety Shift Supervisor
1.4 Emergency Telephone No.:	022-25076606

Section 2: Hazards Identification

2.1 Classification of the chemical product:

Hazard class	Category	Hazard class & category	Hazard statement
Carcinogenicity	2	Carc. 2	H351

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

2.2.1 GHS pictograms:

GHS08

2.2.2 Signal Word(s): Danger

2.2.3 Hazard Statements(s):

H351 Suspected of causing cancer

2.2.4 Precautionary Statement(s):

Precautionary statements - prevention	
P202	Do not handle until all safety precautions have been read and understood
P280	Wear protective gloves/eye protection
Precautionary statements – response	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313	IF exposed or concerned: Get medical advice/attention

2.3 Other hazards except those mentioned in DGCPL Rules, 201:
Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

Section 3: Composition/Information on Ingredients

3.1 Name of Product: Asphalt

3.1.1 Systematic Chemical Name or Trivial Name: Bitumen VG 30

3.1.2 CAS No.: 8052-42-4

3.1.3 Other Identifiers

Molar mass 500-900 $^{g}/_{mol}$

Section 4: First-Aid Measures

4.1 Description of first aid measures

4.1.1 Inhalation
Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

4.1.2 Skin Contact
In case of contact with hot or molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product from skin because skin will tear easily. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

4.1.3 Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

4.1.4 Ingestion

Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

4.2 Most important symptoms and anticipated effects both acute and delayed

Aspiration hazard, Irritation, Dizziness, Drowsiness, Narcosis, Edema, Conjunctivitis, Proteinuria

4.3 Advice for immediate medical attention and special treatment needed

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Section 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable extinguishing media**
  Water spray. Water fog. Dry chemical powder. Carbon dioxide (CO2).
- **Unsuitable extinguishing media**
  Water jet

5.2 Special hazards arising from the chemical product:

Thermal decomposition or combustion may liberate toxic gases or fumes.

5.3 Hazardous Combustion Products:

In case of fire may be liberated: Carbon dioxide (CO_2)

5.4 Specific Extinguishing Methods

For this substance/mixture no limitations of extinguishing agents are given

5.4.1 Advice for Fire-Fighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

5.4.2 Special protective equipment for fire-fighters: None

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

6.2 Environmental precautions:

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew.

6.3 Methods and materials for containment and cleaning up:

Advice on how to contain a spill

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Advice on how to clean up a spill

Do not allow material to contaminate ground water system. Clean surface thoroughly to remove residual contamination. Wipe up with absorbent material (e.g. cloth, fleece).

Other information relating to spills and releases

Keep combustibles (wood, paper, oil, etc.) away from spilled material.

6.4 Reference to other sections:

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:

Avoid prolonged exposure. Use only with adequate ventilation.

Measures to prevent fire as well as aerosol and dust generation

Do not handle, store or open near an open flame or sources of ignition.

Take precautionary measures against static discharge.

Measures to protect the environment

Avoid release to the environment.

7.2 Conditions for Safe Storage, including requirement of hazardous area classification and any incompatibilities:
Keep container tightly closed in a cool, well-ventilated place.

Incompatible substances or mixtures
Strong oxidizing agents

Consideration of other advice:
All equipment used when handling the product must be grounded. Use only non-sparking tools.

Ventilation requirements
Use local and general ventilation.

Specific designs for storage rooms or vessels
Recommended storage temperature: 120 – 190 °C

Section 8: Exposure Controls and Personal Protection

8.1 Control Parameters
National Limit Values
Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/mS]	STEL [ppm]	STEL [mg/mS]	Ceiling- C [ppm]	Ceiling-C [mg/mS]	Notation	Source
US	Asphalt	8052-42-4	ACGIH	0.025	0.5			0.025	0.5		

Notation

- Ceiling-C: Ceiling value is a limit value above which exposure should not occur
- STEL: Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15- minute period (unless otherwise specified)
- TWA: Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours' time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time

DNEL	2.9 mg/m³	human, inhalatory	worker (industry)	Long term systemic effects

DNEL: Derived No Effect Level

8.2 Exposure Controls

8.2.1 Personal Protective Equipment:

Use of PPE to be ensured by working crew for exposure control. Different PPEs for exposure control of different body parts is described in the next section.

8.2.2 Suggestions for protection of eye, skin and body and respiratory system:

- **Eye/face protection**

Use safety goggle with side protection.

- **Skin protection**

a. **Hand protection**
   Thick, thermally insulated protective gloves. Change protective gloves regularly. Protective gloves according to standards EN 374 and EN 407.
b. **Type of material**
   Polyvinyl alcohol (PVA), Fluoro-elastomer
c. **Other protection measures**
   Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- **Respiratory protection:** Respiratory protection necessary at: Bitumen fumes. Type: A1/P2

8.2.3 Environmental Exposure Controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Brown/black
Odour	like: - Strong petroleum
Melting point/freezing point	37.78 - 65.56 °C
Boiling point or initial boiling point and boiling range	371.11 - 593.39 °C
Flammability	Not available
Lower and upper explosion limit	Not considered to be explosive
Flash point	220°C
Softening point	47°C
Auto-ignition temperature	> 315.61 °C
Decomposition temperature	not relevant
pH (value)	not determined
Absolute viscosity	2400-3600 Poises @ 60°C
Kinematic viscosity	350 cst @ 135°C
Viscosity ratio	4 @ 60°C
Solubility(ies)	
Water solubility	Insoluble
Partition coefficient	
Partition coefficient n-octanol/water (log value):	Not available
Soil organic carbon/water (log KOC)	Not available
Vapour pressure	< 0.01 kPa @ 20 °C
Density and/or relative density	
Density	~ 0.93 – 1.10 @ 15°C
Relative vapour density	> 1.6 (Air = 1)
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none

9.2 Other Information:
Information with regard to physical hazard classes:
There is no additional information.

Section 10: Stability and Reactivity

10.1 Reactivity
There are no known reactivity hazards associated with this product

10.2 Chemical stability
Stable at normal ambient temperatures and when used as recommended.

10.3 Possibility of hazardous reactions
No potentially hazardous reactions known.

10.4 Conditions to avoid
Excessive heating above the maximum recommended handling and storage temperature may cause degradation of the substance and evolution of irritant vapours and fumes.

10.5 Incompatible materials
Oxidising agents.

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects: Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**
  nausea, vomiting, aspiration hazard
- **If in eyes**
  slightly irritant but not relevant for classification
- **If inhaled**
  irritant effects, headache, vertigo, fatigue, dizziness, narcosis
- **If on skin**
  causes skin irritation
- **Other information**
  None

11.1.1 Acute Toxicity:

Exposure route	Endpoint	Value	Species	Source
Inhalation	LC50	> 94.4 mg/m³	rat	OECD 403
Oral	LD50	> 5000 mg/kg	rat	OECD 401
Dermal	LD50	>2000 mg/kg	rabbit	OECD 402

11.1.2 Skin Corrosion/ Irritation: Causes skin irritation.

11.1.3 Serious Eye Damage/ Eye Irritation: May cause eye irritation.

11.1.4 Respiratory or Skin Sensitization: Shall not be classified as a respiratory or skin sensitizer

11.1.5 Mutagenicity: Shall not be classified as germ cell mutagenic.

11.1.6 Carcinogenicity: Shall not be classified as carcinogenic.

11.1.7 Reproductive Toxicity: Based on available data, the classification criteria are not met.

11.1.8 Specific target organ toxicity-single exposure: Based on available data, the classification criteria are not met.

11.1.9 Specific target organ toxicity - repeated exposure
Based on available data, the classification criteria are not met.

11.1.10 Aspiration Hazard: Based on available data, the classification criteria are not met.

11.1.11 Additional Information: There is no additional information.

Section 12: Ecological Information

12.1 Toxicity: Toxic to aquatic life with long lasting effects.

Aquatic toxicity (Acute)				
Endpoint	**Value**	**Species**	**Source**	**Exposure time**
LL50	> 1000 mg/l	fish	QSAR	96 h
LL50	> 1000 mg/l	aquatic invertebrates	QSAR	48 h
EL50	> 1000 mg/l	aquatic plants	QSAR	72 h
LL50	> 1000 mg/l	Microorganisms	QSAR	40 h
Aquatic toxicity (Chronic)				
LL50	> 1000 mg/l	fish early life stage	QSAR	28 days
NOEL	≥ 1000 mg/	aquatic invertebrates	QSAR	21 days

12.2 Persistence and Degradability: Not available.

12.3 Bio Accumulative Potential: Not available.

12.4 Mobility in Soil: Not available

12.5 Other adverse effects: Data are not available

Section 13: Disposal considerations

13.1 Waste Treatment Method: This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Sewage disposal-relevant information**

Do not contaminate ponds, waterways or ditches with chemical or used container.
13.1.1 Contaminated Packaging: Offer rinsed packaging material to local recycling facilities.
13.1.2 Local Regulations (if any) on Disposal: Waste material must be disposed of in accordance with the **Hazardous Waste Management Rules-2016**

Section 14: Transport Information
14.1 UN Number: UN 3257
14.2 UN Proper Shipping Name: Elevated temperature liquid
14.3 Transport Class(es): 9
14.3.1 Hazard Labels: 9
14.3.2 Symbols: 
14.4 Packaging Group: III
14.5 Environmental Hazards: No
14.6 Special Precautions for User: Provisions for dangerous goods (ADR) should be complied within the premises.

Section 15: Regulatory Information
15.1 Safety, health and Environmental: Regulations/legislation specific for the substance or mixture relevant provisions of **Non - Toxic/Flammable Substance** are applicable

Section 16: Other Information
16.1 Date of Issue: March 2023
16.2 Necessity of Specific Training: Working and handling personnel to be trained on following aspects i. Chemical hazard awareness ii. Safety control measures including PPE iii. Housekeeping, hygiene and chemical storage iv. Responding to any kind of emergency
16.3 Disclaimer: This M.S.D.S and the information it contains is offered to you in good faith as accurate. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.