

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

1- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Material Name: Bitumen

CAS No : 8052-42-4

EC No : 232-490-9

Other Names of Products:

Bitumen 50/70 (Tüpraş-750)

Bitumen 70/100 (Tüpraş-760)

Bitumen 100/150 (Tüpraş-770)

Bitumen 160/220 (Tüpraş-780)

1.2 Relevant identified uses of the substance or mixture and uses advised against

For manufacture of coated road stone

1.3 Details of the supplier of the substance or mixture

Manufacturer/Supplier : Tüpraş

Adress : Türkiye Petrol Rafinerileri A.Ş. Genel Müdürlüğü KÖRFEZ/ KOCAELİ

Telephone : +90-262 316 30 00

Fax : +90-262 316 30 10-11

e-mail : omer.ocak@tupras.com.tr

sinasi.seymenbasi@tupras.com.tr

1.4 Emergency Telephone Number

Telephone : 114 (UZEM)

2- HAZARD IDENTIFICATION

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DIREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

2.1 Classification of substance or mixture

Not classified as hazardous.

2.2 Label Elements

Symbols: No

2.3 Emergency overview: WARNING!

VAPOR MAY CONTAIN HYDROGEN SULFIDE (H₂S) GAS WHICH CAN BE HARMFUL OR FATAL IF INHALED. MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION. HEATED MATERIAL CAN CAUSE THERMAL BURNS. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Precautionary statements:

Prevention:

P201: Obtain special instructions before use.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

3- COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

CAS NO:	EINECS NO:	Chemical Composition	Concentration	Risk Phrases
Bitumen 68476-33-5	270-675-6	Carbon numbers predominantl	%100	Not classified as hazardous

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DIREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

		y greater than C25 with high carbon to hydrogen ratios.		
H2S 7783-06-4	231-977-3	H2S	<%1	Extremely flammable gas,Cat.1 H220 Contains gas under pressure; may explode if heated H280 Fatal if inhaled,Cat.1,2 H330 Very toxic to aquatic life Cat.1 H400

3.2 Mixtures

Not applicable

4- FIRST AID MEASURES

4.1 Description of First Aid Measures

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

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

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

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.

Ingestion: Do not induce vomiting. Wash out mouth thoroughly with water. Seek medical attention.

4.2 Most important symptoms/effects, acute & delayed

Irritation of nose and throat. Skin irritation.

H₂S Exposure: Casualties suffering ill effects as a result of exposure to hydrogen sulphide should be immediately removed to fresh air and medical assistance obtained without delay.

4.3 Indication of immediate medical attention and special treatment needed

In case of shortness of breath, give oxygen.

5- FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Use foam, dry powder or water fog. For major fires call the Fire Service. Ensure an escape path is always available from any fire.

5.2 Special hazards arising from substance or mixture

Combustion results from toxic gases. It can burn at high temperatures.

5.3 Advice for fire-fighters

Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus.

6- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DIREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Refer to section 8.

6.2 Environmental precautions

Depending upon its temperature the product may be liquid, semi-solid or solid. Protect drains from spills and prevent entry of product. This may in blockage on cooling. Scrape up bulk of solid material and remove remainder with sand or other suitable inert absorbent material. Recovery of large spillages should be effected by specialist personnel. Spillages of hot product in confined spaces may be especially hazardous because highly toxic hydrogen sulphide gas may be present. For spillages in such confined spaces the use of approved breathing apparatus by personnel specially trained in its use may be required. Vapour may collect in any confined space. In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover product from the surface. Protect environmentally sensitive areas and water supplies. In the event of spillages contact the appropriate authorities

6.3 Methods and material for containment and cleaning up

Spilled material may make surfaces slippery. Clean spilled product with sand or similar absorbent material immediately. Prevent product from entering drains. Spilled product isolated from sources of ignition. Prevent from spreading by making a barrier with sand, earth or other containment material. Protect environmentally sensitive areas and water supplies. Recovery of large spillages should be affected by specialist personnel. In the event of spillages contact the appropriate authorities.

6.4 Reference to other sections

Refer to sections 8 and 13.

7- HANDLING AND STORAGE

7.1 Precautions for safe handling

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Ensure good ventilation and avoid as far as reasonably practicable the inhalation and contact with vapors, mists or fumes which may be generated during use. Avoid contact with skin and observe good personal hygiene. Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate. Use disposable cloths and discard when soiled. Do not put soiled cloths into pockets.

7.2 Conditions for safe storage, including any incompatibilities

Store and use only in equipment/containers designed for use with this product. Containers must be properly labelled and kept closed when not in use. Do not remove warning labels from containers. Material is normally stored in closed tanks at 100 C.

Empty packages may contain some remaining product. Retain hazard warning labels on empty packages as a guide to the safe handling, storage and disposal of empty packaging. Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapor concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume. Confined spaces contaminated with hydrogen sulphide must always be considered as constituting potentially life threatening environments.

7.3 Specific end use

Except as provided in Section 1.2 is not required to offer any specific suggestions.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Bitumen Fumes : ACGIH (USA) : TLV 0.5 mg/m³ (8 hr TWA)

Hydrogen Sulphur (H₂S) :

ACGIH (USA) : TLV 10 ppm (8hr TWA) : 15 ppm (15 min STEL)

8.2 Exposure controls

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DIREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.



8.2.1 Appropriate engineering controls

Ensure good ventilation.

8.2.2 Personal protective precautions

Personal Protective Equipment: Personal protective equipment (PPE) should meet recommended national standards.

Eye Protection: Chemical splash goggles (chemical monogoggles).

Hand Protection: Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When handling heated product wear heat resistant gloves. When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. For incidental contact/splash protection Neoprene, PVC gloves may be suitable.

Respiratory Protection: If operations are such that exposure to vapor, mist or fume may be anticipated, then suitable approved respiratory equipment should be worn. The use of respiratory equipment must be strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use.

Equipment to be used for exposure controls:

Clothes: TS EN 1149-3

Raincoat: TS EN 1149-3

Shoe: TS EN ISO 20345, TS EN 13287

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Wellingtons: EN ISO 20345 200 JUL S5

Gloves: TS EN 420+A1, TS EN 374-3, 1149-5

Goggles: TS 5560 EN 166, TS EN 170

Breathing mask: EN 149:2001+A1:2009

9- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

	Test Unit	Guarantee	Test Method
Appearance		No data	Visual inspection
Odour		Petroleum	
Odour threshold		No data	
pH		No data	
Melting point / freezing point		No data	
Initial boiling point and boiling range		No data	
Evaporation rate		No data	
Flammability		No data	
Upper / lower flammability or explosive limits		No data	
Vapor Pressure		No data	
Vapor density		No data	
Relative density (at 15 °C)		No data	
Resolution		No data	
Partition coefficient: n-octanol / water		No data	
Decomposition temperature		No data	
Fluidity (Viscosity) (at 100 °C)		No data	
Ignition temperature	°C	230 Min	TS EN ISO 2592
Explosive properties		No data	
Oxidising properties		No data	

9.2 Other Information

Mixibility	No data
------------	---------

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Oil solubility	No data
Conductivity	No data

10- STABILITY AND REACTIVITY

10.1 Reactivity

Avoid contact with strong oxidizing agents.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition source.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11- TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information given is based on product data, a knowledge of the components and the toxicology of similar products.

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Acute Oral Toxicity: Low toxicity: LD50 > 5000 mg/kg, Rat

Acute Dermal Toxicity: Low toxicity: LD50 >2000 mg/kg, Rabbit

Acute Inhalation Toxicity: Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l / 4 h, Rat

Skin corrosion/irritation: Expected to be slightly irritating. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Contact with hot material can cause thermal burns which may result in permanent skin damage.

Serious eye damage/irritation: Expected to be slightly irritating. Hot product may cause severe eye burns and/or blindness.

Respiratory or skin sensitisation: Not expected to be a sensitizer.

Aspiration Hazard: Swallowing and breathing because when people vomit can cause lung damage.

Germ cell mutagenicity: Not considered to be mutagenic hazard.

Carcinogenicity: Not considered to be carcinogenic hazard.

Reproductive and Developmental Toxicity: Not expected to be a hazard.

Specific target organ toxicity - single exposure: Not expected to be a hazard.

Specific target organ toxicity - repeated exposure: Not expected to be a hazard.

12- ECOLOGICAL INFORMATION

12.1 Toxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Acute Toxicity:

Fish: Harmful: LL/EL/IL50 >100 mg/l

Aquatic invertebrate: LL/EL/IL50 > 100 mg/l

Microorganisms: LL/EL/IL50 > 100 mg/l

12.2 Persistence and degradability

This product is not biodegradable.

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

12.3 Bio accumulative potential

Contains constituents with the potential to bio accumulate.

12.4 Mobility in soil

Adsorbs to soil and has low mobility.

12.5 Results of PBT and vPvB assessment

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

12.6 Other adverse effects

13- Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

14- DISPOSAL CONSIDERATIONS

3.1 Waste treatment methods

Material Disposal:

Dispose of by incineration or other suitable means under conditions approved by the local authority or via a licensed waste disposal contractor. At sea, used or unwanted product should be stored for eventual discharge into port approved waste oil disposal facilities. Empty packages may contain some remaining product. Hazard warning labels are a guide to the safe handling of empty packaging and should not be removed.

Container Disposal:

Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point.

Local Legislation:

Ministry of Environment and Urbanism "Regulation on Control of Waste"

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

14- TRANSPORT INFORMATION**Land transport (ADR/RID):****ADR****14.1 UN Number: 3257****14.2 UN proper shipping name: ELEVATED TEMPERATURE, LIQUID,****14.3 Transport hazard class(es) : 9****14.4 Packing group: III****14.5 Environmental hazards: No****14.6 Special precautions for user: Refer to Chapter 7****RID****14.1 UN Number: 3257****14.2 UN proper shipping name: ELEVATED TEMPERATURE, LIQUID,****14.3 Transport hazard class(es) : 9****14.4 Packing group: III****14.5 Environmental hazards: No****14.6 Special precautions for user: Refer to Chapter 7****Inland waterways transport (ADN):****14.2 UN proper shipping name: ELEVATED TEMPERATURE, LIQUID,****14.3 Transport hazard class(es): 9****14.4 Packing group: III****14.5 Environmental hazards: No****14.6 Special precautions for user: Refer to Chapter 7****Sea transport (IMDG Code):**

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DIREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

14.1 UN Number: 3257

14.2 UN proper shipping name: ELEVATED TEMPERATURE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group: III

14.5 Marine pollutant : No

14.6 Special precautions for user: Refer to Chapter 7

Air transport (IATA):

14.1 UN Number: 3257

14.2 UN proper shipping name: ELEVATED TEMPERATURE, LIQUID,

14.3 Transport hazard class(es): 9

14.4 Packing group: III

14.5 Environmental hazards: No

14.6 Special precautions for user: Refer to Chapter 7

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data.

15-REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This Safety Data Sheet, Environment and Urban Planning Ministry by December 13, 2014 date and 29204 numbered published in the Official Gazette of Hazardous Substances Regulation on safety data sheets of mixtures' Environment and Forestry and the Ministry of 26 by December 2008, and 27092 (bis) Official Gazette published "Classification of Hazardous Substances and preparations Regulations on Packaging and Labelling 'base is based.

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

16- OTHER INFORMATION

Hazard Statements:

Not classified as hazardous

The information presented about health, safety and environment issues in this safety data sheet was given by considering of best knowledge and reliable sources at the date of its preparation. Although maximum effort was shown, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate 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, recommendation or authorization given or implied to practice any patented invention without a valid license. The TÜRPAŞ shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

Prepared by: Şinasi SEYMENBAŞI

Document Date: 01.10.2015

Document No : GBF-2101

REVİZE EDEN	ONAYLAYAN	
ÜRETİM PLANLAMA BASMÜHENDİSİ	HAMPETROL İKMAL&ÜRETİM PLN. DİREKTÖRÜ	GENEL MÜDÜR YARDIMCISI
SINASI SEYMENBASİ	ATILLA ULUSU	HASAN TAN