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: Fuel Oil

CAS No : 68476-33-5

EC No : 270-675-6

Other Names of Products:

Tüpraş-615 Heating Oil
Tüpraş-635 High Sulphur Fuel Oil
Tüpraş-660 Atmospheric Straight Run Fuel Oil
Tüpraş-675 Fuel Oil
Tüpraş-650 Marine Residual Fuel (RME-180)
Tüpraş-662 Marine Residual Fuel (RMG-380)
Tüpraş-676 Marine Residual Fuel (RMK-380)
Tüpraş-695 Marine Residual Fuel (RMK-700)
Tüpraş-697 Marine Residual Fuel (RMH-700)

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

Fuel for industrial, marine and commercial boilers and furnaces.

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

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1.4 Emergency Telephone Number

Telephone : 114 (UZEM)

2- HAZARD IDENDIFICATION

2.1 Classification of substance or mixture

Acute toxicity, Category 4	H332
Carcinogenicity, Category 1	H350
Toxic to reproduction, Category 2	H361d
Specific target organ toxicity – repeated exposure, Category 2	H373
Acute hazards to the aquatic environment, Category 1	H400
Chronic hazards to the aquatic environment, Category 1	H410
EUH066	Repeated exposure may cause skin dryness or cracking.

2.2 Label Elements

Symbols:

GHS07 GHS08 GHS09

Signal Word: Danger

Hazard statements:

Health hazards:

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H332 : Harmful if inhaled.

H350 : May cause cancer.

H361d : Suspected of damaging the unborn child.

H373 : May cause damage to organs or organ systems through prolonged or repeated exposure.

EUH066 : Repeated exposure may cause skin dryness or cracking.

Environmental Hazards:

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P201 : Obtain special instructions before use.

P210 : Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P243 : Take precautionary measures against static discharge.

P260 : Do not breathe dust/fume/gas/mist/vapours/spray.

P270 : Do not eat, drink or smoke when using this product.

P273 : Avoid release to the environment.

P280 : Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301+P310 : IF SWALLOWED: Immediately call a **POISON CENTER** or doctor/physician.
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 : IF exposed or concerned: Get medical advice/attention.
P331 : Do NOT induce vomiting.
P391 : Collect spillage.

Disposal:

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P501 : Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

2.3 Other hazards

This product is hydrogen sulfide (H2S) may include a highly toxic and extremely flammable gas.

3- COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

CAS NO:	EINECS NO:	Chemical Composition	Concentration	Risk Phrases
68476-33-5	270-675-6	It's a mixture of atmospheric and vacuum tower residues.	%100	Acute toxicity, Cat. 4 H332 Carcinogenicity,Cat.1 H350 Toxic to reproduction, Cat.2 H361d Specific target organ toxicity – repeated exposure,Cat.2 H373 Acute hazards to the aquatic environment, Cat. 1 H400 Chronic hazards to the aquatic environment, Category 1 H410

3.2 Mixtures

Not applicable

4- FIRST AID MEASURES

4.1 Description of First Aid Measures

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

Skin Contact: Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin. If hot product causes burns, the affected area should be flooded immediately with, or immersed in cold water for 10 minutes, or longer if pain persists.

Eye contact: Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

If hot material enters the eye, flood immediately with cold water to dissipate the heat, if possible, ensuring eyelids are held open. Take the casualty to hospital for examination and treatment without delay.

Ingestion: If contamination of the mouth occurs, wash out thoroughly with water.

Except as a deliberate act, the ingestion or large amounts of product is unlikely. If it should occur, do not induce vomiting; obtain medical advice.

4.2 Most important symptoms/effects, acute & delayed

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.

Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth to mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.

4.3 Indication of immediate medical attention and special treatment needed

There is no specific antidote or treatment. It should be treated symptomatically.

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

Refer to section 8.

6.2 Environmental precautions

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

6.3 Methods and material for containment and cleaning up

Spilled material may make surfaces slippery. Recovery of large spillages should be affected by specialist personnel. It is advised that stocks of suitable absorbent material should be held in

quantities sufficient to deal with any spillage which may be reasonably anticipated. Large and uncontained spillages should be smothered with foam to reduce the risk of ignition.The foam blanket should be maintained until the area is declared safe. 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.

6.4 Reference to other sections

Refer to sections 8 and 13.

7- HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure good ventilation and avoid as far as reasonably practicable the inhalation and contact with vapours, 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

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 vapour concentrations of less that 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

Hydrogen Sulphide (H2S) : TWA (8 hr) 1 ppm (ACGIH)
Hydrogen Sulphide (H2S) : STEL (15 min) 5 ppm (ACGIH)

8.2 Exposure controls

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).

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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, 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 vapour, 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

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

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9- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

	Test Unit	Guarantee	Test Method
Appearance		Homogeneous	Visual inspection
Odour		No data	
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 ^{0}C)		1.01 Max	TS 1013 EN ISO 3675 veya TS EN ISO 12185
Resolution		No data	
Partition coefficient: n-octanol / water		No data	
Decomposition temperature		No data	
Fluidity (Viscosity) (at 100 ^{0}C)	cSt	50 Max	TS 1451 EN ISO 3104
Ignition temperature	^{0}C	>60	ASTM D 3828 ASTM D 56 IP 170 IP 523
Explosive properties		No data	
Oxidising properties		No data	

9.2 Other Information

Mixibility	No data
Oil solubility	No data
Conductivity	No data

10- STABILITY AND REACTIVITY

10.1 Reactivity

Oxidises on contact with air.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of Hazardous Reactions

Oxidises on contact with air.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Strong oxidising 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.

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 sensitiser.

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

Germ cell mutagenicity: Positive in in-vitro, but negative in in-vivo mutagenicity assays.

Carcinogenicity: Causes cancer in laboratory animals.

Reproductive and Developmental Toxicity: Causes foetotoxicity at doses which are maternally toxic.

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

Specific target organ toxicity - repeated exposure: May cause damage to organs or organ systems through prolonged or repeated exposure. (Blood, Liver, Thymus)

12- ECOLOGICAL INFORMATION

12.1 Toxicity

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Acute Toxicity: Expected to be very toxic: LL/EL/IL50 < 1 mg/l LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

Fish: Harmful: LL/EL/IL50 10-100 mg/l

Aquatic crustacea: Toxic: LL/EL/IL50 1-10 mg/l

Algae/aquatic plants: Very toxic: LL/EL/IL50 < 1 mg/l

Microorganisms: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Chronic Toxicity:

Fish: NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l (based on modeled data)

Aquatic crustacea: NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l (based on modeled data)

12.2 Persistence and degradability

The volatile constituents will oxidize rapidly by photochemical reactions in air. Major constituents are inherently biodegradable.

12.3 Bioaccumulative potential

Contains constituents with the potential to bioaccumulate.

12.4 Mobility in soil

Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater. May float or sink in water. Contains volatile constituents.

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

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired

13- DISPOSAL CONSIDERATIONS

13.1 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 warming 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"

14- TRANSPORT INFORMATION

Land transport (ADR/RID): ADR

14.1 UN Number : 3082

14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group : III

14.5 Environmental hazards : Environmentally Hazardous

14.6 Special precautions for user : Refer to Chapter 7

RID

14.1 UN Number : 3082

14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group : III

14.5 Environmental hazards : Environmentally Hazardous

14.6 Special precautions for user : Refer to Chapter 7

Inland waterways transport (ADN):

14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group : III

14.5 Environmental hazards : Environmentally Hazardous

14.6 Special precautions for user : Refer to Chapter 7

Sea transport (IMDG Code):

14.1 UN Number : 3082

14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group : III

14.5 Marine pollutant : Yes

14.6 Special precautions for user : Refer to Chapter 7

Air transport (IATA):

14.1 UN Number : 3082

14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

14.3 Transport hazard class(es) : 9

14.4 Packing group : III

14.5 Environmental hazards : Environmentally Hazardous

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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.

16- OTHER INFORMATION

Hazard Statements:

H332 : Harmful if inhaled.

H350 : May cause cancer.

H361d : Suspected of damaging the unborn child.

H373 : May cause damage to organs or organ systems through prolonged or repeated exposure.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

EUH066 : Repeated exposure may cause skin dryness or cracking.

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

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