SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Chemical type	:	Substance
Substance name	:	Distillates (petroleum), hydrotreated heavy naphthenic
Trade name	:	ISOVOLT
EC index no	:	649-466-00-2
EC no	:	265-156-6
CAS No.	:	64742-53-6
REACH registration No.	:	01-2119480375-34-0006
Product code	:	936, 938, SDS # PbR0097
Synonyms	:	Mineral Oil Insulating A - ISOVOLT / Naphthenic transformer oil

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

1.2.1. Relevant identified uses

Use of the substance/preparation : Manufacture of substances
Intermediate
Formulation [mixing] of preparations and/or re-packaging
Coatings
Cleaning agent
Use in Oil and Gas field drilling and production operations
Metal working fluids
Release agent.
Agrochemicals
Building and construction work.
Road work
Manufacture of rubber products.
Polymer preparations and compounds
Fuels
Lubricant
Use as laboratory reagent.
mining (including offshore industries).
Water treatment chemicals.
Functional fluids
Binding agent
Explosive

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Petrobras International Braspetro B.V. – PIB BV
Prins Bernhardplein 200, 1097 – JB Amsterdam
The Netherlands

All communications shall be addressed exclusively to the following address:
Petrobras Europe Ltd
4th Floor, 20 North Audley Street
London W1K 6WL – United Kingdom
Fax number: +44(0) 20 7355 8750
E-mail: reach@petrobras.com.br

1.4. Emergency telephone number

Emergency number : For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada (collect calls accepted): 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Asp. Tox. 1 H304

Full text of H-phrases: see section 16.

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

Adverse physicochemical, human health and environmental effects

Prolonged/repetitive skin contact may cause skin defattening or dermatitis. The inhalation of airborne droplets or aerosols causes irritation of the respiratory tract.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS08

Signal word (CLP) : Warning

Hazard statements (CLP) : H304 - May be fatal if swallowed and enters airways

Precautionary statements (CLP) : P301+P310 - If swallowed, immediately call a doctor.
P331 - Do NOT induce vomiting
P501 - Dispose of contents/container to Comply with applicable local, national and international regulation..

2.3. Other hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

other hazards which do not result in classification : Combustible liquid. When exposed to heat, may decompose liberating hazardous gases.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Distillates (petroleum), hydrotreated light naphthenic (contains less than 3% DMSO extract)	(CAS No.) 64742-53-6 (EC no) 265-156-6 (EC index no) 649-466-00-2	100	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated light naphthenic (contains less than 3% DMSO extract)	(CAS No.) 64742-53-6 (EC no) 265-156-6 (EC index no) 649-466-00-2	100	Asp. Tox. 1, H304

Full text of R-, H- and EUH-phrases: see section 16.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of breathing difficulties administer oxygen. In case of irregular breathing or respiratory arrest provide artificial respiration. If medical advice is needed, have product container or label at hand.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Rinse thoroughly with plenty of water for at least 20 minutes and take medical advice. If medical advice is needed, have product container or label at hand.

First-aid measures after eye contact : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. Seek immediate medical advice. If medical advice is needed, have product container or label at hand.

First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container label. If swallowed, rinse mouth with water (only if the person is conscious). Drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Harmful by inhalation. Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Symptoms/injuries after skin contact : Slightly irritating to skin. Prolonged/repetitive skin contact may cause skin defattening or dermatitis.

Symptoms/injuries after eye contact : Slightly irritating to eyes.

Symptoms/injuries after ingestion : Nausea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: : carbon dioxide (CO2), dry chemical powder, foam. Water fog.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid. When exposed to heat, may decompose liberating hazardous gases.

Reactivity : On combustion, forms: Carbon dioxide (CO2). Sulphur dioxide (SO2). Nitrogen oxides (NOx). Carbon monoxide.

5.3. Advice for firefighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.

Protective equipment for firefighters : In case of fire: Wear self-contained breathing apparatus. Refer to section 8.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use water spray/stream to protect personnel and to cool endangered containers. Emergency cooling must be provided for in case of fire. Remove product from area of fire.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. Refer to section 8.

Emergency procedures : Stop leak if safe to do so. Avoid release to the environment. Eliminate leaks immediately.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. In case of fire: Wear self-contained breathing apparatus. Refer to section 8.

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Eliminate leaks immediately. Avoid release to the environment.

6.2. Environmental precautions

Stop leak if safe to do so. Avoid release to the environment. Contaminated fire-fighting water must be collected separately. Prevent spreading over great surfaces (e.g. by damming or installing oil booms). Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Eliminate leaks immediately.

Methods for cleaning up : Collect in closed containers for disposal. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Do not use water for cleaning. Ensure all waste water is collected and treated via a waste water treatment plant.

Other information : Relevant water authorities should be notified of any large spillage to water course or drain. Do not allow to enter into soil/subsoil. Eliminate all ignition sources if safe to do so. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

6.4. Reference to other sections

Refer to sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Use only in well-ventilated areas. Use personal protective equipment as required.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: : Floors should be impenetrable, resistant to liquids and easy to clean. The floor should be leak tight, jointless and not absorbent.

Incompatible materials : Oxidizing agents, strong.

Storage area : Keep away from open flames, hot surfaces and sources of ignition. Floors should be impenetrable, resistant to liquids and easy to clean. The floor should be leak tight, jointless and not absorbent.

Special rules on packaging : Portable Tanks/vessels.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ISOVOLT (64742-53-6)		
Belgium	Limit value (mg/m³)	5 mg/m³
Belgium	Short time value (mg/m³)	10 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³

ISOVOLT (64742-53-6)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	5.4 mg/m³/day
DNEL/DMEL (General population)	
Long-term - systemic effects, inhalation	1.2 mg/m³/day

8.2. Exposure controls

Appropriate engineering controls	:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation.
Personal protective equipment	:	Wear protective gloves/protective clothing/eye protection/face protection. The entire protective clothing must be washed after use. Used working clothes should not be used outside the work area. Do not eat, drink or smoke when using this product.
Hand protection	:	Wear protective gloves. PVC (Polyvinyl chloride).
Eye protection	:	Wear eye protection/face protection.
Skin and body protection	:	Wear suitable protective clothing or Rubber apron.
Respiratory protection	:	Wear respiratory protection. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!. In case of fire: Wear self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	clear.
Colour	:	light yellow.
Odour	:	odourless.
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Solidification point	:	No data available
Boiling point	:	190.2-406.6 °C
Flash point	:	>= 140 °C ASTM D 92
Relat. evapor. rate comp. to butylacetate	:	No data available
Flammability (solid, gas)	:	No data available
Explosive limits	:	No data available
Vapour pressure	:	< 5 mmHg @ 25ºC
Relative vapour density at 20 °C	:	No data available
Relative density	:	0.89 g/cm³ @ 20ºC
Solubility	:	Water: not significant
Log Pow	:	3.9-6
Self ignition temperature	:	200 °C (Combustion point/Fire point: >166ºC)
Decomposition temperature	:	> 400 °C
Viscosity, kinematic	:	9.468 cSt @ 40ºC
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

On combustion, forms: Carbon dioxide (CO2). Sulphur dioxide (SO2). Nitrogen oxides (NOx). Carbon monoxide.

10.2. Chemical stability

Stable at normal conditions. When exposed to heat, may decompose liberating hazardous gases.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

ISOVOLT (64742-53-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	5 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

ISOVOLT (64742-53-6)	
NOAEL (oral,rat,90 days)	< 125 mg/kg bodyweight/day
NOAEL (dermal,rat/rabbit,90 days)	> 2000 mg/kg bodyweight/day
NOAEL (inhalation,rat,vapour,90 days)	0.05-0.15 mg/l/6h/day

Aspiration hazard : May be fatal if swallowed and enters airways.

Potential Adverse human health effects and symptoms : The inhalation of airborne droplets or aerosols causes irritation of the respiratory tract. Prolonged/repetitive skin contact may cause skin defattening or dermatitis.

Other information : Ames test negative.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Do not allow agent or/and its container to leak into waters. (Do not clean release apparatus in the direct vicinity of surface waters/Avoid indirect entry into farmyard gullies or road gullies).

Ecology - water : In case of large spills the product may be hazardous to aquatic organisms due to possible formation of a film on the surface water which can diminish dissolved oxygen levels.

ISOVOLT (64742-53-6)	
LC50 fishes	> 100 mg/l 96 hours
LC50 other aquatic organisms	> 10000 mg/l 96 hours
EC50 Daphnia	> 10000 mg/l 48 hours
EC50 Daphnia	> 1000 mg/l 21 days
NOEC (acute)	> 100 mg/l 96 hours- fish
NOEC (chronic)	> 1000 mg/l 48 hours- daphnia

12.2. Persistence and degradability

ISOVOLT (64742-53-6)	
Persistence and degradability	This product is expected to have a low potential to degrade and thus is expected to persist in the environment.

12.3. Bioaccumulative potential

ISOVOLT (64742-53-6)	
Log Pow	3.9-6

12.4. Mobility in soil

ISOVOLT (64742-53-6)	
Ecology - soil	Low mobility (soil).

12.5. Results of PBT and vPvB assessment

ISOVOLT (64742-53-6)
This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Consult the local waste disposal expert about waste disposal. Do not empty into drains or the aquatic environment. Waste is to be kept separate from other types of waste until its disposal. Dispose of this material and its container to hazardous or special waste collection point. Disposal must be done according to official regulations.

SECTION 14: Transport information

Not a dangerous good in sense of transport regulations.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No ingredients included in the REACH Candidate list

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

CSA has been established. Exposure scenario has not been updated yet.

SECTION 16: Other information

Sources of Key data : PETROBRAS. MSDS.

Abbreviations and acronyms : ASTM - American Society for Testing and Materials . CLP - Classification, Labelling and Packaging. CSR - Chemical Safety Report. EC - European Community. EEC - European Economic Community. GHS - Globally Harmonised System. REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals. SDS - Safety Data Sheet.

Full text of R-, H- and EUH-phrases:

Asp. Tox. 1	Aspiration hazard Category 1
H304	May be fatal if swallowed and enters airways

SDS PETROBRAS USES

The information presented in this Safety Data Sheet is based on current knowledge and is believed to be complete and accurate. It describes the product for the purposes of health, safety and environment requirements only and shall, therefore, be used only as a guide. The data refers to a specific product and may not be valid for combined uses with other products. It is the user´s obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. Petrobras shall not be responsible for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices.