Braskem Ezolem™ 7-9

Safety Data Sheet

According to ABNT NBR 14725: 2023

Issue date: 17 June 2021 Revision date: 2 October 2024 Supersedes: 17 June 2021 Version: 2.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form	:	Substance
Substance type	:	UVCB
Trade name	:	Braskem Ezolem™ 7-9
Chemical name	:	Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha
CAS-No.	:	64741-84-0
Product code	:	P801, P801E

1.2. Other means of identification

Synonyms	:	Textile spirits/Naphtha, solvent-refined light (petroleum)/Ligroine (petroleum), solvent-refined light/Naphtha (petroleum), solvent-refined light/Naphtha, petroleum, solvent-refined light/Naphtha (petroleum), solvent-refined light - low boiling point modified naphtha/Naphtha (petroleum) solvent-refined light/Naphtha, (petroleum), solvent-refined light/Naphtha, petroleum, solvent refined light/Naphtha (petroleum), solvent-refined light
EC Index-No.	:	649-278-00-0
EC-No.	:	265-086-6

1.3. Recommended use of the chemical and restrictions on use

Recommended use	:	Industrial,Professional use,Adhesives,Paints
Restrictions on use	:	No additional information available

1.4. Supplier's details

Braskem S.A.
Rua Eteno, 1561, Polo Petroquímico de Camaçari
Camaçari, BA, CEP: 42810-000, Brasil
Tel: +55 (71) 3413-3600
productsafety@braskem.com

1.5. Emergency phone number

Emergency number	:	CHEMTREC Brazil (Rio De Janeiro): +(55)-2139581449 Portuguese CHEMTREC Brazil (São Paulo): +(55)-1143491359 Portuguese CHEMTREC Brazil: 0800 892 0479 Portuguese CHEMTREC+1 703-741-5970 (International – 24h)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to GHS BR (ABNT NBR 14725: 2023)

Flammable liquids, Category 2
Acute toxicity (dermal), Category 5
Skin corrosion/irritation, Category 2
Serious eye damage/eye irritation, Category 1
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1A
Reproductive toxicity, Category 2
Specific target organ toxicity — Single exposure, Category 3, Narcosis
Specific target organ toxicity — Repeated exposure, Category 2
Aspiration hazard, Category 1
Hazardous to the aquatic environment - Acute Hazard, Category 2
Hazardous to the aquatic environment - Chronic Hazard, Category 2

2.2. GHS Label elements, including precautionary statements

GHS BR labelling

Hazard pictograms (GHS BR) :

Signal word (GHS BR)	:	Danger
Hazard statements (GHS BR)	:	H225 - Highly flammable liquid and vapour H304 - May be fatal if swallowed and enters airways H313 - May be harmful in contact with skin H315 - Causes skin irritation H318 - Causes serious eye damage H336 - May cause drowsiness or dizziness H340 - May cause genetic defects. H350 - May cause cancer. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (GHS BR)	:	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed. P240 - Ground and bond container and receiving equipment. P241 - Use explosion-proof electrical, lighting, ventilating equipment. P242 - Use non-sparking tools. P243 - Take action to prevent static discharges. P260 - Do not breathe vapours, spray, mist. P264 - Wash hands, forearms and face thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear eye protection, protective clothing, protective gloves. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or a doctor. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical attention. P310 - Immediately call a POISON CENTER or a doctor. P314 - Get medical advice or attention if you feel unwell. P331 - Do NOT induce vomiting. P332+P313 - If skin irritation occurs: Get medical attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P370+P378 - In case of fire: Use foam, extinguishing powder, carbon dioxide (CO2), Water spray to extinguish. P391 - Collect spillage. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

Handling this product may result in electrostatic accumulation. Use proper grounding procedures

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	:	UVCB
Name	:	Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha
CAS-No.	:	64741-84-0
EC-No.	:	265-086-6
EC Index-No.	:	649-278-00-0

Synonyms : Textile spirits/Naphtha, solvent-refined light (petroleum)/Ligroine (petroleum), solvent-refined light/Naphtha (petroleum), solvent-refined light/Naphtha, petroleum, solvent-refined light/Naphtha (petroleum), solvent-refined light - low boiling point modified naphtha/Naphtha (petroleum) solvent-refined light/Naphtha, (petroleum), solvent-refined light/Naphtha, petroleum, solvent refined light/Naphtha (petroleum), solvent-refined light

Name	GHS Product identifier	%
Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha	CAS-No.: 64741-84-0	100
Methylcyclopentane	CAS-No.: 96-37-7	40 – 50
n-hexane	CAS-No.: 110-54-3	10 – 20
cyclohexane	CAS-No.: 110-82-7	5 – 15
Hexane, isomers (Isomer mixture)	CAS-No.: Not assigned	5 - 15
Heptane, isomers (Isomer mixture)	CAS-No.: Not assigned	0 - 13
Cyclopentane	CAS-No.: 287-92-3	0 – 5
trans-1,2-Dimethylcyclopentane	CAS-No.: 822-50-4	0 – 5
cis-1,2-Dimethylcyclopentane	CAS-No.: 1192-18-3	0 – 4
Cyclopentane, 1,3-dimethyl-, cis-	CAS-No.: 2532-58-3	0 – 4
trans-1,3-Dimethylcyclopentane	CAS-No.: 1759-58-6	0 – 3
Methylcyclohexane	CAS-No.: 108-87-2	0 – 3
1,1-Dimethylcyclopentane	CAS-No.: 1638-26-2	0 – 3
Benzene	CAS-No.: 71-43-2	≤ 0.1

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Do not apply mouth-to-mouth resuscitation. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical advice if skin irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Seek medical attention immediately.

First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, acute and delayed

Symptoms/effects : Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (central nervous system) through prolonged or repeated exposure. May cause genetic defects. May cause cancer.

Symptoms/effects after skin contact : Causes skin irritation. May be harmful in contact with skin.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis.

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

Note to physician : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Carbon dioxide (CO2), dry chemical powder, foam. Water fog.
Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapour. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.
Explosion hazard : May form flammable vapour-air mixture. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours. Prolonged exposure to fire may cause containers to rupture/explode.
Hazardous decomposition products in case of fire : Thermal decomposition can lead to the release of irritating gases and vapours.

5.3. Special protective actions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Take precautionary measures against static discharge. Avoid contact with spilled material. Spilled material may present a slipping hazard.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid contact with eyes, skin and clothing. Do not breathe mist, spray, vapours.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area. Approach from upwind. Stop leak if safe to do so. No open flames, no sparks, and no smoking.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and materials for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leaks if it can be done without personal risk. Control the vapours with a fine water spray. Collect spillage.
Methods for cleaning up : Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Use only non-sparking tools. Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.
Other information : Dispose of in a safe manner in accordance with local/national regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Container remains hazardous when empty. Continue to observe all precautions.

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid ignition sources. Product can accumulate electrostatic charges that may cause fire by electrical discharges. Use only non-sparking tools. Use grounded electrical/mechanical equipment. Spilled product must never be returned to the original container for recycling. No open flames. No smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Do not breathe mist, spray, vapours.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep away from sources of ignition. Use only in well ventilated areas. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical/ventilating/lighting equipment. Prevent the build-up of electrostatic charge.

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Incompatible materials : Strong oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

cyclohexane (110-82-7)	
Brazil - Occupational Exposure Limits	
Local name	Ciclohexano
OEL TWA	820 mg/m³
OEL TWA	235 ppm
Regulatory reference	Norma Regulamentadora Nº 15 - Atividades e Operações Insalubres
USA - ACGIH - Occupational Exposure Limits	
Local name	Cyclohexane
ACGIH OEL TWA	100 ppm
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	Cyclohexane
BEI	50 mg/g creatinine Parameter: 1,2-Cyclohexanediol - Medium: urine - Sampling time: End of shift, end of workweek - Notations: Ns
Regulatory reference	ACGIH 2024

Benzene (71-43-2)	
Brazil - Occupational Exposure Limits	
Local name	Benzeno

Benzene (71-43-2)	
OEL TWA	1 ppm 2.5 ppm
Remark (NR-15)	Os valores estabelecidos para os VRT-MPT são: a) 1,0 (um) ppm para as empresas que transportam, armazenam, utilizam ou manipulam benzeno e suas misturas líquidas contendo 1% (um por cento) ou mais de volume e aquelas por elas contratadas, no que couber (com exceção das empresas siderúrgicas, as produtoras de álcool anidro e aquelas que deverão substituir o benzeno a partir de 1º.01.97). b) 2,5 (dois e meio) ppm para as empresas siderúrgicas. Fator de Conversão da concentração de benzeno de ppm para mg/m3 é: 1ppm = 3,19 mg/m³ nas condições de 25º C, 101 kPa ou 1 atm.
Regulatory reference	Norma Regulamentadora Nº 15 - Atividades e Operações Insalubres
Brazil - Biological limit values	
Local name	Benzeno
BEI	750 µg/g creatinine Parâmetro: Ácido trans-transmucônico (TTMA) - Meio: Urina - Momento de amostragem: Final de jornada de trabalho - Observações: Encontrado em populações não expostas ocupacionalmente. Não específico (pode ser encontrado por exposições a outras substâncias). Para a siderurgia será mantida a regra atualmente vigente. 45 µg/g creatinine Parâmetro: Ácido s-fenilmercaptúrico (S-PMA) - Meio: Urina - Momento de amostragem: Final de jornada de trabalho - Observações: Encontrado em populações não expostas ocupacionalmente. Valores para não fumantes.
Remark	Interpretação: IBE/EE - Indicadores Biológicos de Exposição Excessiva.
Regulatory reference	NR 7 - PCMSO
USA - ACGIH - Occupational Exposure Limits	
Local name	Benzene
ACGIH OEL TWA	0.02 ppm
Remark (ACGIH)	TLV® Basis: Myelodysplastic syndrome; acute myeloid leukemia; leukemia; hematologic eff; chromosomal dam. Notations: Skin; A1 (Confirmed Human Carcinogen); BEI
ACGIH chemical category	Confirmed Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	Benzene
BEI	25 µg/g creatinine Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g creatinine Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
Regulatory reference	ACGIH 2024

Hexane, isomers	
Brazil - Occupational Exposure Limits	
OEL TWA	200 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	200 ppm
Remark (ACGIH)	TLV® Basis: URT irr; lung dam. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2024

Cyclopentane (287-92-3)	
Brazil - Occupational Exposure Limits	
OEL TWA	1000 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Cyclopentane
ACGIH OEL TWA	1000 ppm (EX - Explosion hazard)
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2024

Heptane, isomers	
Brazil - Occupational Exposure Limits	
OEL TWA	400 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	400 ppm
ACGIH OEL STEL	500 ppm (Heptane, all isomers)
Remark (ACGIH)	TLV® Basis: CNS impair; URT irr
Regulatory reference	ACGIH 2024

n-hexane (110-54-3)	
Brazil - Occupational Exposure Limits	
OEL TWA	50 ppm
Brazil - Biological limit values	
Local name	n-hexano
BEI	0.5 mg/l Parâmetro: 2,5 hexanodiona (2,5HD) - Meio: Urina - Momento de amostragem: Final de jornada de trabalho - Observações: O método analítico deve ser realizado sem hidrólise para este IBE/EE.
Remark	Interpretação: IBE/EE - Indicadores Biológicos de Exposição Excessiva.
Regulatory reference	NR 7 - PCMSO
USA - ACGIH - Occupational Exposure Limits	
Local name	n-Hexane
ACGIH OEL TWA	50 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; peripheral neuropathy; eye irr. Notations: Skin; BEI
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	n-Hexane
BEI	0.5 mg/l Parameter: 2,5-Hexanedione (without hydrolysis) - Medium: urine - Sampling time: End of shift
Regulatory reference	ACGIH 2024

Methylcyclohexane (108-87-2)	
Brazil - Occupational Exposure Limits	
OEL TWA	100 ppm

Methylcyclohexane (108-87-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Methylcyclohexane
ACGIH OEL TWA	100 ppm
Remark (ACGIH)	TLV® Basis: Kidney dam
Regulatory reference	ACGIH 2024

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Emergency safety showers should be available in the immediate vicinity of any potential exposure. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Use spark-/explosionproof appliances and lighting system.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures

Personal protective equipment:
Antistatic clothing including shoes are recommended. Wear fire/flame resistant/retardant clothing.

Materials for protective clothing:
Flame retardant antistatic protective clothing

Hand protection:
Protective gloves made of PVC. ISO 374-1. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer

Eye protection:
Chemical goggles or safety glasses. ISO 16321-1

Skin and body protection:
Long sleeved protective clothing. Antistatic clothing

Respiratory protection:
Wear suitable respiratory equipment in case of insufficient ventilation. An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Colour : Colourless
Odour : Characteristic
Odour threshold : Not available
pH : Not applicable
Melting point : Not available
Freezing point : Not available
Boiling point : 68 – 95 °C
Flash point : < 10 °C
Relative evaporation rate (butylacetate=1) : 6.55
Flammability : Not available
Explosive limits : Not available

Vapour pressure	:	33.3 kPa
Relative vapour density at 20°C	:	Not available
Relative density	:	Not available
Density	:	0.72 – 0.74 g/cm³
Solubility	:	Water: Insoluble Organic solvent:Soluble
Partition coefficient n-octanol/water (Log Pow)	:	3.90 - Hexane 3.44 - Cyclohexane
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Auto-ignition temperature	:	280 – 465 °C
Decomposition temperature	:	Not available
Viscosity, kinematic	:	0.456 – 0.656 mm²/s
Viscosity, dynamic	:	0.3 – 0.5 mPa·s
Particle size	:	Not applicable
Particle size distribution	:	Not applicable
Particle shape	:	Not applicable
Particle aspect ratio	:	Not applicable
Particle specific surface area	:	Not applicable

9.2. Data relevant with regard to physical hazard classes

No additional information available

9.3. Further safety characteristics

No additional information available

SECTION 10: Stability and reactivity

Chemical stability	:	Static-accumulating.
Conditions to avoid	:	Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition can lead to the release of irritating gases and vapours.
Incompatible materials	:	Strong oxidizing agents.
Possibility of hazardous reactions	:	Flammable or explosive vapour/air mixtures may be formed.
Reactivity	:	Highly flammable liquid and vapour.
Handling temperature	:	No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met).
Acute toxicity (dermal)	:	May be harmful in contact with skin.
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met).

Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (64741-84-0)	
LD50 oral rat	> 7000 mg/kg (Source: IUCLID)
LD50 dermal rabbit	> 2000 mg/kg (Source: ECHA_API)
LC50 Inhalation - Rat	43767 mg/m³ (Exposure time: 4 h Source: ECHA_API)

cyclohexane (110-82-7)	
LD50 oral rat	12705 mg/kg (Source: NLM_CIP)
LD50 oral	> 5000 mg/kg bodyweight
LD50 dermal rabbit	> 2000 mg/kg (Source: EU_RAR)
LD50 dermal	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 32.88 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat [ppm]	> 5540 ppm Source: ECHA
ATE BR (oral)	12705 mg/kg bodyweight

Benzene (71-43-2)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 8200 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	43.767 mg/l air Animal: rat, Animal sex: female, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 41690 - 45939

Hexane, isomers	
LC50 Inhalation - Rat (Vapours)	> 20 mg/l

Cyclopentane (287-92-3)	
LD50 oral rat	11400 mg/kg (Source: NLM_CIP)
LC50 Inhalation - Rat	> 25.3 mg/l/4h
ATE BR (oral)	11400 mg/kg bodyweight

n-hexane (110-54-3)	
LD50 oral rat	25 g/kg (Source: NLM_CIP)
LD50 dermal rabbit	3000 mg/kg (Source: NLM_CIP)
LC50 Inhalation - Rat [ppm]	48000 ppm/4h
ATE BR (oral)	25000 mg/kg bodyweight
ATE BR (dermal)	3000 mg/kg bodyweight
ATE BR (gases)	48000 ppmv/4h

trans-1,2-Dimethylcyclopentane (822-50-4)	
ATE BR (oral)	500 mg/kg bodyweight

cis-1,2-Dimethylcyclopentane (1192-18-3)	
ATE BR (oral)	500 mg/kg bodyweight

Cyclopentane, 1,3-dimethyl-, cis- (2532-58-3)	
ATE BR (oral)	500 mg/kg bodyweight

trans-1,3-Dimethylcyclopentane (1759-58-6)	
ATE BR (oral)	500 mg/kg bodyweight

Methylcyclohexane (108-87-2)	
LD50 oral rat	> 3200 mg/kg
LD50 dermal rabbit	> 86700 mg/kg

1,1-Dimethylcyclopentane (1638-26-2)	
ATE BR (oral)	500 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
pH: Not applicable

Serious eye damage/irritation : Causes serious eye damage.
pH: Not applicable

Respiratory or skin sensitisation : Not available

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans

Benzene (71-43-2)	
National Toxicity Program (NTP) Status	Known Human Carcinogens, Evidence of Carcinogenicity

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
STOT-single exposure : May cause drowsiness or dizziness.

Methylcyclopentane (96-37-7)	
STOT-single exposure	May cause drowsiness or dizziness.

cyclohexane (110-82-7)	
STOT-single exposure	May cause drowsiness or dizziness.

Hexane, isomers	
STOT-single exposure	May cause drowsiness or dizziness.

Heptane, isomers	
STOT-single exposure	May cause drowsiness or dizziness.

n-hexane (110-54-3)	
STOT-single exposure	May cause drowsiness or dizziness.

trans-1,3-Dimethylcyclopentane (1759-58-6)	
STOT-single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.

Methylcyclohexane (108-87-2)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : May cause damage to organs (central nervous system) through prolonged or repeated exposure.

Benzene (71-43-2)	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	0.096 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study), Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	Causes damage to organs (haematopoietic system) through prolonged or repeated exposure.

n-hexane (110-54-3)	
STOT-repeated exposure	May cause damage to organs (central nervous system) through prolonged or repeated exposure (if inhaled).

Aspiration hazard : May be fatal if swallowed and enters airways.
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (64741-84-0)	
Hydrocarbon	Yes
Viscosity, kinematic	0.456 – 0.656 mm²/s

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

Symptoms/effects : Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (central nervous system) through prolonged or repeated exposure. May cause genetic defects. May cause cancer.
Symptoms/effects after skin contact : Causes skin irritation. May be harmful in contact with skin.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.
Other information : Avoid release to the environment.

Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (64741-84-0)	
LC50 - Fish [1]	4.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static] Source: ECHA)
EC50 - Crustacea [1]	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	8.41 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static, closed] Source: ECHA)

cyclohexane (110-82-7)	
LC50 - Fish [1]	3.96 – 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	23.03 – 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
EC50 72h - Algae [1]	> 500 mg/l (Species: Desmodesmus subspicatus)
EC50 72h - Algae [2]	9.317 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Benzene (71-43-2)	
LC50 - Fish [1]	10.7 – 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
EC50 - Crustacea [1]	8.76 – 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through] Source: EPA)
EC50 - Crustacea [2]	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Cyclopentane (287-92-3)	
EC50 - Crustacea [1]	10.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

n-hexane (110-54-3)	
LC50 - Fish [1]	2.5 mg/l
EC50 - Other aquatic organisms [1]	50 mg/l waterflea

Methylcyclohexane (108-87-2)	
LC50 - Fish [1]	2.07 mg/l (Exposure time: 96 h - Species: Oryzias latipes [semi-static] Source: ECHA)

12.2. Persistence and degradability

Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (64741-84-0)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (64741-84-0)	
Partition coefficient n-octanol/water (Log Pow)	3.90 - Hexane 3.44 - Cyclohexane
Bioaccumulative potential	Not established.

cyclohexane (110-82-7)	
Partition coefficient n-octanol/water (Log Pow)	3.44 (at 25 °C (at pH 7)

Benzene (71-43-2)	
BCF - Fish [1]	3.5 – 4.4
Bioconcentration factor (BCF REACH)	> 2000
Partition coefficient n-octanol/water (Log Pow)	1.83
Bioaccumulative potential	not bioaccumulable.

Cyclopentane (287-92-3)	
Partition coefficient n-octanol/water (Log Pow)	3 (at 25 °C (at pH 7)

n-hexane (110-54-3)	
Partition coefficient n-octanol/water (Log Pow)	3.9

12.4. Mobility in soil

n-hexane (110-54-3)	
Mobility in soil	2187.76 Source: ECHA

12.5. Other adverse effects

Hazardous to the ozone layer : Not available
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Empty containers retain product residue and can be hazardous. Handle empty containers with care because residual vapours are flammable. Dispose of in a safe manner in accordance with local/national regulations.
Additional information : Do not re-use empty containers. Container remains hazardous when empty. Continue to observe all precautions.
Ecological waste information : Avoid release to the environment.

SECTION 14: Transport information

14.1 National and international Regulations

In accordance with IMDG / IATA / ANTT

ANTT	IMDG	IATA
UN number		
1268	1268	1268
UN Proper Shipping Name		
PETROLEUM DISTILLATES, N.O.S. (Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha)	PETROLEUM DISTILLATES, N.O.S. (Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha)	Petroleum distillates, n.o.s. (Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha)

Primary Risk class/subclass		
3	3	3
Subsidiary Risk class/subclass		
Not applicable	Not applicable	Not applicable
Hazard labels		
3	3	3
		
Risk Identification Number		
33	Not applicable	Not applicable
Packing group		
II	II	II
Environmental hazards		
Yes	Yes Marine pollutant: Yes	Yes
Maritime transport in bulk according to MARPOL 73/78 and IBC Code		
Not applicable	Product name: Not available Consult IMO instructions prior to transport	Not applicable

14.2 Other informations

This information does not intend to convey all specific regulatory or operational requirements/information with regards to the product, therefore it cannot be considered exhaustive. Consult ANTT, IMO and ICAO instructions before transporting the product. The carrier is responsible for following all applicable laws, regulations and rules related to the product transportation.

SECTION 15: Regulatory information

15.1. National regulations

Regulatory reference : Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on Thailand Existing Chemicals Inventory (DIW)

SECTION 16: Other information

Other information : None.

Safety Data Sheet (SDS), Brazil - Braskem

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.