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

1.1. Product identifier

Product form	:	Substance (UVCB)
Trade name	:	Tetramer
Chemical name	:	Alkenes, C10-14-branched and linear, C12-rich
IUPAC name	:	Alkenes, C10-14-branched and linear, C12-rich
EC-No.	:	298-697-1
CAS-No.	:	93821-12-6
Product code	:	P502, P502FL
IUPAC name	:	Alkenes, C10-14-branched and linear, C12-rich
Product group	:	Trade product

1.2. Recommended uses and restrictions

1.2.1. Recommended use	:	Distribution of substance,Intermediate,Industrial use,For professional users only.

1.3. Supplier information

- Supplier

Company identification	:	Braskem S.A. Av. Presidente Costa e Silva, 1178 – Capuava 09270-001 – Santo André – SP – Brasil www.braskem.com.br E-mail: productsafety@braskem.com Emergency number (Chemtrec): +1 703-527-3887 (International – 24h) 00-308-13-2549 (South Korea Toll Free in Country – 24h) +(82) 070-7686-0086 (South Korea – 24h)

SECTION 2 : Hazards identification

2.1. Classification of the substance or mixture

Flammable liquids, Category 3	H226
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

2.2. Label elements

2.2.1. Hazard pictograms (GHS KR):

2.2.2. Signal word (GHS KR): Danger.

2.2.3. Hazard statements (GHS KR):

H226 - Flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

2.2.4. Precautionary statements (GHS KR) (Precaution):

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements (GHS KR) (Treatment):
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P331 - Do NOT induce vomiting.
P370+P378 - In case of fire: Use … to extinguish.
P391 - Collect spillage.

Precautionary statements (GHS KR) (Storage):
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.

Precautionary statements (GHS KR) (Disposal):
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Hazards - Other hazards which do not result in classification - Hazard Risk
None known

SECTION 3 : Composition/information on ingredients

Product form : Substance (UVCB)

Substance name	Other Names	Product identifier number	Concentration (%)
Alkenes, C10-14-branched and linear, C12-rich	-	CAS-No. : 93821-12-6 HCS-No. : -	100

SECTION 4 : First aid measures

4.1. First-aid measures after eye contact
- Rinse immediately with plenty of water for 15 minutes.
- Remove contact lenses, if present and easy to do. Continue rinsing.
- Obtain medical attention if pain, blinking or redness persists.

4.2. First-aid measures after skin contact
- Take off immediately all contaminated clothing.
- Rinse skin with water/shower.
- Seek medical attention if ill effect or irritation develops.

4.3. First-aid measures after inhalation
- Allow affected person to breathe fresh air.
- Allow the victim to rest.
- If breathing stops, give artificial respiration.
- Seek medical attention immediately.

4.4. First-aid measures after ingestion
- Do not induce vomiting.
- If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

- May result in aspiration into the lungs, causing chemical pneumonia.
- Rinse mouth.
- Immediately call a POISON CENTER/doctor.

4.5. Note to physician :

- Treat symptomatically.

SECTION 5 : Firefighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media	:	Carbon dioxide (CO2), dry chemical powder, foam,Water fog.
- Unsuitable extinguishing media	:	Do not use a water jet since it may cause the fire to spread,Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard	:	Material can accumulate some static charge during transfer,Flammable liquid and vapour,Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.
- Explosion hazard	:	May form flammable/explosive vapour-air mixture,Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions	:	Cool down the containers exposed to heat with a water spray,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,For large fire:Use self-contained breathing apparatus and chemically protective clothing,For small fire:Fight fire from safe distance and protected location,For further information refer to section 8: "Exposure controls/personal protection".

SECTION 6 : Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Use personal protective equipment as required.
- For further information refer to section 8: "Exposure controls/personal protection".
- Use non-sparking tools.
- Eliminate every possible source of ignition.
- Evacuate unnecessary personnel.
- Equip cleanup crew with proper protection.
- For further information refer to section 8: "Exposure controls/personal protection".
- Evacuate unnecessary personnel.
- Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.
- Ventilate area.

6.2. Environmental precautions and protective procedures

- Prevent contamination of soil, drains and surface waters.
- Prevent entry to sewers and public waters.

- Notify authorities if liquid enters sewers or public waters.
- Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Take up large spills with pump or vacuum.
- Use only non-sparking tools.
- Absorb remaining liquid with sand or inert absorbent and remove to safe place.
- Consult an expert on waste disposal or treatment.
- Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
- Collect spillage.
- Store away from other materials.

SECTION 7 : Handling and storage

7.1. Precautions for safe handling

- Ground/bond container and receiving equipment.
- Carry out operations in the open/under local exhaust/ventilation or with respiratory protection.
- Do not use compressed air to transfer, discharge or transport the product.
- Provide good ventilation in process area to prevent formation of vapour.
- No open flames. No smoking.
- Take precautionary measures against static discharge.
- Use only non-sparking tools.
- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage

- Ground equipment electrically.
- Keep away from sources of ignition.
- Avoid static electricity discharges.
- Proper grounding procedures to avoid static electricity should be followed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical, lighting, ventilating equipment.
- Keep away from ignition sources (including static discharges).
- Store tightly closed in a dry, cool and well-ventilated place.
- Keep only in the original container in a cool well ventilated place.
- Keep container tightly closed.
- Strong oxidizing agents.
- Strong acids.
- Strong bases.

SECTION 8 : Exposure controls/personal protection

8.1. Occupational Exposure Limits

Tetramer (93821-12-6)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Provide local exhaust or general room ventilation to minimize vapour concentrations,Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Other information	:	Do not eat, drink or smoke during use.

8.3. Personal protection

Hand protection:

Impermeable protective gloves. Consult glove manufacturer´s product information on material suitability and material thickness.

Eye protection:

Chemical goggles or face shield with safety glasses.

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

SECTION 9 : Physical and chemical properties

a.Appearance	:	Colourless Liquid.
Physical state	:	Liquid.
Colour	:	Colourless.
b.Odour	:	Characteristic,petroleum-like odour.
cOdour threshold (mg/m³)	:	No data available
d.pH	:	Not applicable
e.Melting / freezing point	:	>-80ºC
f.Boiling point	:	171 – 208 °C
g.Flash point	:	52 °C (closed cup)
h.Evaporation rate	:	No data available
i.Flammability (solid, gas)	:	Flammable liquid and vapour.
j.Upper / lower flammability or explosive limits	:	0.8 – 5.4 vol %
k.Vapour pressure	:	20 mm Hg (284 hPa; 19°C)
l.Solubility	:	Soluble in : Benzene. Water: Insoluble Ethanol: Soluble
m.Vapour density	:	5.81 (Air = 1)
n.Specific gravity density	:	No data available
o.Log Pow	:	Not available
p.Auto-ignition temperature	:	Not applicable
q.Decomposition temperature	:	Not applicable
r.Viscosity, kinematic	:	No data available
r.Viscosity, dynamic	:	No data available
s.Molecular mass	:	No data available

SECTION 10 : Stability and reactivity

10.1. Chemical stability and Possibility of hazardous reactions

- No dangerous reactions known under normal conditions of use.
- Stable at room temperature.
- Flammable liquid and vapour.
- May form flammable/explosive vapour-air mixture.
- No dangerous reactions known.

10.2. Conditions to avoid

- Avoid ignition sources.
- Avoid static electricity discharges.
- Direct sunlight.

- Extremely high or low temperatures.
- Open flame.
- Overheating.
- Heat.
- Sparks.

10.3. Incompatible materials

- Strong oxidizing agents.
- Strong acids.
- Strong bases.

10.4. Hazardous decomposition products

- Carbon oxides (CO, CO2).
- Hydrocarbons.
- fume.
- Carbon monoxide.
- Carbon dioxide.
- May release flammable gases.

SECTION 11 : Toxicological information

11.1. Information on exposure routes

- Oral	:	Not classified
- Skin and eyes contact	:	Not classified
- Inhalation	:	May be fatal if swallowed and enters airways.

11.2. Health hazards

Acute toxicity (oral):
- Not classified

Acute toxicity (dermal):
- Not classified

Acute toxicity (inhalation)
- Not classified

Skin corrosion/irritation:
- Based on available data, the classification criteria are not met.

Serious eye damage/irritation:
- Based on available data, the classification criteria are not met.

Respiratory sensitization:
- Based on available data, the classification criteria are not met.

Skin sensitization:
- Based on available data, the classification criteria are not met.

Carcinogenicity:
- Based on available data, the classification criteria are not met.

Mutagenicity:
- Based on available data, the classification criteria are not met.

Reproductive toxicity:
- Based on available data, the classification criteria are not met.

STOT-single exposure:
- Based on available data, the classification criteria are not met.

STOT-repeated exposure:

- Based on available data, the classification criteria are not met.

Aspiration hazard:

- May be fatal if swallowed and enters airways.

SECTION 12 : Ecological information

12.1. Ecotoxicity

Ecology - water : Very toxic to aquatic life.
- Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

Tetramer (93821-12-6)	
Partition coefficient n-octanol/water (Log Pow)	Not available

12.2. Persistence and degradability

Tetramer (93821-12-6)	
Persistence and degradability	This product has little potential to bioaccumulate in aquatic organisms, is expected to rapidly degrade, and is not expected to persist. - Will not undergo hydrolysis. - May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Tetramer (93821-12-6)	
Partition coefficient n-octanol/water (Log Pow)	Not available
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Tetramer (93821-12-6)	
Partition coefficient n-octanol/water (Log Pow)	Not available

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

Effect on the ozone layer : No additional information available.

Other information : Avoid release to the environment.

SECTION 13 : Disposal considerations

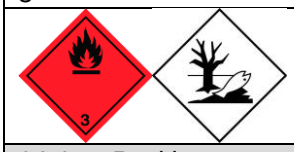
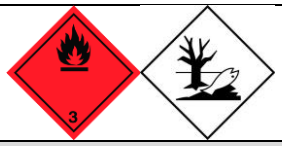
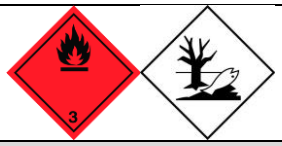
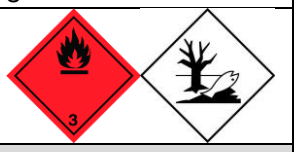
13.1. Disposal method

- Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Disposal must be done according to official regulations.
- Avoid release to the environment.
- Hazardous waste due to toxicity.

13.2. Disposal precaution

- Dispose of this material and its container at hazardous or special waste collection point.
- Do not allow to enter into surface water or drains.
- Do not re-use empty containers.
- Dispose in a safe manner in accordance with local/national regulations.
- Handle empty containers with care because residual vapours are flammable.

SECTION 14 : Transport information

UN RTDG	ADR	IMDG	IATA
14.1. UN number			
2850	2850	2850	2850
14.2. Proper Shipping Name			
PROPYLENE TETRAMER	PROPYLENE TETRAMER	PROPYLENE TETRAMER	Propylene tetramer
14.3. Transport hazard class(es)			
3	3	3	3
			
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available			

14.6. Special transport precautions

No data available

SECTION 15 : Regulatory information

15.1. Occupational Safety and Health Act

No data available

15.2. Chemicals Control Act (CCA) / K-REACH

No data available

K-REACH inventories

On KECI list KECI-No.

15.3. Safety Control of Dangerous Substances Act

No data available

15.4. Wastes Control Act

No data available

15.5. Other Domestic and International Regulatory Information

Domestic

No data available

International

EU Regulatory Information

- EU Candidate list (SVHC) Tetramer is not on the REACH Candidate List

- EU authorization list (REACH Annex XIV)	Tetramer is not on the REACH Annex XIV List

US Regulatory Information
No data available

International agreements
No data available

SECTION 16 : Other information

16.1. Sources of Key data	:	Data arise from reference works and literature.
16.2. Issue date	:	2020.03.25
16.3. Revision number and date	:	2020.03.25
16.4. Other information	:	None.

16.5. Indication of changes:

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.