

Product Name Tetramer
Issuing Date 17-Dec-2020

Revision Date 01-Aug-2024
Revision Number 3.0

1. Identification

Product identifier

Product Name Tetramer
Chemical name 1-Propene, tetramer

Other means of identification

Product Code(s) P502, P503
UN/ID no UN2850

Details of the supplier of the safety data sheet

Supplier

Braskem S.A.
Av. Presidente Costa e Silva, 1178 –
Capuava
Santo André, SP, CEP: 09270-001, Brasil
Telephone: +55 (11) 4478-1777

E-mail address productsafety@braskem.com

Emergency telephone number

Emergency telephone number CHEMTREC International: +1 703-741-5970
CHEMTREC China: +(86) 4001-204937

Recommended use of the chemical and restrictions on use

Recommended use Distribution of substance
Industrial use
Intermediate

Restrictions on use No information available

2. Hazard(s) identification

Emergency Overview

Very toxic to aquatic organisms
VERY TOXIC TO AQUATIC ORGANISMS; MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames

Color Colorless

Physical state Liquid

Odor Petroleum

Classification of the substance or mixture

Flammable liquids	Category 3
Hazardous to the Aquatic Environment - Acute Hazard	Category 1
Hazardous to the Aquatic Environment - Chronic Hazard	Category 1

Label elements**Signal word**

Warning

Hazard statements

Flammable liquid and vapor

Very toxic to aquatic life with long lasting effects

Precautionary statements**Prevention**

Use explosion-proof electrical/ ventilating/ lighting/ equipment

Avoid release to the environment

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Wear protective gloves/protective clothing/eye protection/face protection

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Collect spillage

Storage

Store in a well-ventilated place. Keep cool

Disposal

Dispose of contents/container to an approved waste disposal plant

Physical and chemical hazards

Flammable; may be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

Environmental hazards

Dangerous for the environment. This material is a water pollutant. Keep out of drains, sewers, ditches and waterways. Minimize use of water to prevent environmental contamination.

Other hazards which do not result in classification

Not applicable.

3. Composition/information on ingredients**Substance**

Chemical name	CAS No	Weight-%
1-Propene, tetramer	6842-15-5	>99

4. First-aid measures

Description of necessary first aid measures

Inhalation	Remove to fresh air. Medical aid is necessary if symptoms appear to be an obvious consequence of inhalation.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Most important symptoms/effects, acute and delayed	Prolonged contact may cause redness and irritation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
For emergency responders	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol resistant foam.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not allow run-off from fire-fighting to enter drains or water courses.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Other information	Ventilate the area.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods and material for containment and cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Precautions to prevent secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

<u>Precautions for safe handling</u>	Handle in accordance with good industrial hygiene and safety practice. Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.
<u>Conditions for safe storage, including any incompatibilities</u>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.
Incompatible materials	None known based on information supplied.

8. Exposure controls/personal protection

Occupational exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

No data available.

Monitoring and observation processes

No applicable information was found.

Engineering controls	Showers Eyewash stations Ventilation systems.
-----------------------------	---

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.
Hand protection	Wear suitable gloves. Impervious gloves.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colorless, Liquid
Physical state	Liquid
Color	Colorless
Odor	Petroleum
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	< -80 °C	None known
Initial boiling point and boiling range	176.5 - 204 °C	None known
Flash point	52 °C	CC (closed cup)
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	5.4%	
Lower flammability or explosive limits	0.8%	
Vapor pressure	20 mmHg	284 hPa; @ 19 °C
Vapor density	5.81	(air = 1)
Relative density	0.760 - 0.770	@20°C
Water solubility	Insoluble in water	None known
Solubility(ies)	Benzene, Ethanol	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Additional information

Explosive properties	No information available.
Oxidizing properties	No information available.

10. Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Conditions to avoid Heat, flames and sparks.

Incompatible materials None known based on information supplied.

Hazardous decomposition products Carbon oxides.

11. Toxicological information

Acute toxicity

Numerical measures of toxicity

Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1-Propene, tetramer	> 5 g/kg (Rat)	-	> 5060 mg/m ³ (Rat) 4 h

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Specific target organ toxicity (single exposure) No information available.

Specific target organ toxicity (repeated exposure) No information available.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

EC50 (calculated) <1 mg/L

Persistence and degradability No information available.

Bioaccumulative potential Material may have some potential to bioaccumulate.

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste chemicals Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

14. Transport information**IMDG**

UN number or ID number UN2850
UN proper shipping name PROPYLENE TETRAMER

Description	UN2850, PROPYLENE TETRAMER, 3, III, (52°C C.C.)
Transport hazard class(es)	3
Packing group	III
Marine pollutant	NP
EmS-No	F-E, S-E

IATA

UN number or ID number	UN2850
UN proper shipping name	Propylene tetramer
Description	UN2850, Propylene tetramer, 3, III
Transport hazard class(es)	3
Packing group	III
ERG Code	3L

China

UN number or ID number	UN2850
UN proper shipping name	PROPYLENE TETRAMER
Transport hazard class(es)	3
Packing group	III
Marine pollutant	Yes
Description	UN2850, PROPYLENE TETRAMER, 3, III

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

15. Regulatory information

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

National regulations**Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalog of occupational hazard factors:

Not applicable.

Catalog of occupational diseases:

Not applicable.

Regulations on the Control over Safety of Hazardous Chemicals**Inventory of hazardous chemicals**

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed. Verify that license requirements are met.

Flammable liquid - Category 3 Weight-% 99

Chemical name	Inventory of hazardous chemicals
1-Propene, tetramer	Listed

GB 18218-2009 Identification of major hazard installations for dangerous chemicals**Category**

Flammable liquids

Threshold quantity (T)

5000

List of hazardous chemicals under priority management

Not applicable

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods

Not applicable

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China

Not applicable

Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances Contact supplier for inventory compliance status.

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

Issuing Date 17-Dec-2020

Revision Date 01-Aug-2024

Revision Note SDS sections updated: 9.

Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AELG(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet