Safety Data Sheet SDS	Form No	SDS-TOTM-EN
	Issue Date	14.09.2022
OPTAFLEKS TOTM TRIOCTYL TRIMELLITATE	Revision Date	1.06.2025
	Revision No	14

Prepared in accordance with the REACH Regulation (EC)1907/2006, CLP Regulation (EC) 1272/2008 and Regulation (EU) 2020/878

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade Name : Optafleks TOTM

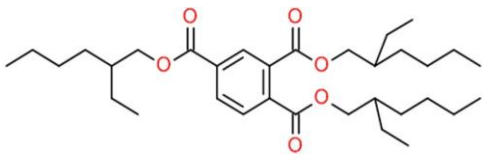
IUPAC Name : TOTM (Trioctyl Trimellitate)

EC Number : 222-020-0

CAS Number : 3319-31-1

Common Synonyms : Tris(2-ethylhexyl) benzene-1,2,4-tricarboxylate Tri (2-ethylhexyl) trimellitate ester, Trimellitate tris (2-ethylhexyl) ester

Molecular Structure :



Molecular Formula : $C_{33}H_{54}O_6$

Molecular Weight : 546,78

Chemical Structure : Mono-constituent substance-organic

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

Identified uses Plasticizer.

1.3. Details of the supplier of the safety data sheet

Manufacturer **Plastay Kimya San. Tic. A.Ş.**
GGOSB İnönü Mah. Atatürk Bulv. No:22 Gebze /KOCAELİ – TURKEY 41400

Contact Person Melike ÖZKAN (Mrs)-Chemical Assessment Specialist

1.4. Emergency telephone number

24 Hour Emergeny Contact : 112

National Capital Posion Center : 114

Emergency Phone of the Company : +90 (262) 679 53 00 (08:30-18:00)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards Not classified.

Human health Not classified.

Environment Not classified.

2.2. Label elements

Not a hazardous substance or mixture.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Name	EC No.	CAS No.	Content	Classification (EC 1272/2008)
Trioctyl Trimellitate	222-020-0	3319-31-1	<99,5%	Not classified

The Full Text for all Hazard Statements are Displayed in Section 16.

Composition Comments

- The data shown are in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact:

-Do not rub your eyes.

-Immediately flush eyes with plenty of water for at least 15minutes and call a doctor/physician.

-Get medical attention immediately.

Skin contact:

-Flush skin with plenty of wter for at least 15 minutes while removing contaminated clothing and shoes.

-Laundering enough contaminated clothing before reuse.

-Get medical attention immediately.

Inhalation:

-When exposed to large amounts of steam and mist, move to fresh air.

-Take specific treatment if needed.

-Get medical attention immediately.

Ingestion:

-About whether I should induce vomiting Take the advice of a doctor.

-Rinse your mouth with water immediately.

-Get medical attention immediately.

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

Inhalation : Upper respiratory tract irritation. Cough.

Ingestion : Nausea.

Skin contact : Irritation, redness. May cause sensitisation by skin contact.

Eye contact : Irritation, redness.

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: Compatible with dry chemical, water spray, carbon dioxide and dry chemical foam.

Unsuitable Extinguishing Media: Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Carbon monoxide (CO). Carbon dioxide (CO_2).

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Keep unnecessary and unprotected personnel away from entering. Avoid contact with skin, eyes, and clothing-wear suitable protective equipment (see section 8). Do not touch or walk through spilt material. Shut off all ignition sources. Ventilate area of leak or spill. Personnels performing clean-up work should wear personal protective equipment and a self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Remove all sources of ignition.

6.2. Environmental precautions

Prevent runoff and contact with waterways, drains or sewers. If large amounts have been spilled, inform the relevant authorities.

6.3. Methods and material for containment and cleaning up

-Large spill: Stay upwind and keep out of low areas. Dike for later disposal.

-Notification to central government, local government. When emissions at least of the standard amount
-Dispose of waste in accordance with local regulation.
-Appropriate container for disposal of spilled material collected.
-Small leak: sand or other non-combustible material, please let use absorption.
-Wipe off the solvent.
-Dike for later disposal.
-Prevent the influx to waterways, sewers, basements or confined spaces.

6.4. Reference to other sections

For personal protection, see section 8.

For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Protective Measures: Protect containers from physical damage. The personnel which handling the product must wear protective equipment. Sources of ignition such as smoking and open flames prohibited where TOTM is handled.

Hygiene Measures: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for Safe Storage: Keep only in original container, in a cool, dry, well ventilated place. Keep away from food. Store locked up. Keep out of reach of children. Avoid static electricity by grounding.

Incompatible Products: Strong oxidants, acids and alkalis.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Exposure Pattern	DNEL	
	Workers	General Population
Long-term–inhalation,systemic	3.97 mg/m^3	0.98 mg/m^3
Long-term– dermal,systemic	22.5 mg/kg/day	11.25 mg/kg/day
Long-term– oral,systemic	Not Relevant	1.13 mg/kg/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Environmental Compartment	Value
Fresh water	0,0003 mg/l
Marine water	0,00003 mg/l
Aqua Intermittent	0,000014 mg/l
Fresh water sediment	7,4 mg/kg
Sewage treatment plant	0,0003 mg/l
Soil	0,095 mg/l
Marine sediment	0,74 mg/kg

8.2. Exposure controls

8.2.1. Appropriate Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

Protective equipment

Eye/Face Protection: It must be good industrial hygiene practice minimize eye contact. Use chemical safety goggles and/or full face shield where splashing is possible (EN 166). Maintain eye wash and quick-drench facilities in work area.

Hand Protection: Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical produts.

Skin/Body Protection: Suitable chemical resistant safety gloves (EN 374) e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), PVC (0.7 mm) and other. Consult the glove manufacturer for specific information on the suitability of the gloves. Replace the gloves in the case of internal contamination, when punctured, or if external contamination cannot be removed. The practical usage time depends on many conditions, see manufacturer's directions.

Respiratory Protection: When vapors concentrations exceed permissible exposure limits, wear respiratory protection. Gas filter EN 141 type A for gases and vapors of organic compounds (boiling point >65°C).

Respirator Type: Air purifying respirator with an appropriate government approved (where applicable), air-purifying filter, cartridge or canister.

Hygiene Measures: Do not eat, drink or smoke while using this product. Wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

Thermal Hazards: None under normal storage conditions. When moving the product, it may be heated to temperatures below 100 °C.

Other Precautions: Maintain shower, eye wash fountain and quick-drench facilities in work area.

Environmental Exposure Controls

Please act in accordance with local and national laws.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

PROPERTY	TEST METHOD	VALUE
Appearance	-	Clear Liquid
Colour (Pt/Co)	ASTM D 1209	≤ 30
Odour	-	Typical
Water Solubility (25 °C, g/L)	-	≤ $1{,}8.10^{-3}$
Acidity (mg KOH/g)	ASTM D 1045	≤ 0,10 mg KOH/g
Boiling Point (°C)	-	355
Freezing Point (°C)	-	-43 °C
pH-Value	-	Not available.
Flash Point (°C)	ASTM D 92	≥ 240 °C
Water Content (%)	ASTM 1364-02	≤ 0,05
Density (20 °C, g/cm³)	ASTM D 1045	0,983-0,989 g/cm³
Viscosity (20 °C, cP)	ASTM D 1045	320-340
Flammability	-	Not available
Vapour Pressure (25°C, Pa)	-	~$6{,}8.10^{-8}$
Refractive Index (20°C)	ASTM D 1045	1,4800-1,4860
Purity (%)	GC-Home Method	≥ 99,5
Oxidizing Properties	-	Not available

9.2. Other information

No information required.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Heat, flame, sources of ignition and incompatibles.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides other decomposition products - No data available in the event of fire: see section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

	Dose	Species	Result
Acute Toxicity	LD_{50} (oral)	Rat	>2000 mg/kg bw
	LD_{50} (dermal)	Rabbit	>2000 mg/kg bw
	LD_{50} (inhalation)	Rat	>2600 mg/m^3 bw

The substance is not classified as acute toxic because it is not in the oral or dermal acute toxicity limit range.

Skin corrosion/irritation

Not classified based on available information.

Product:
Species : Rabbit
Exposure time : 24 h
Result : none

Serious eye damage/eye irritation

Not classified based on available information.

Product:
Species : Rabbit
Result : None
Remarks : No data available

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Product:
Test Type : Skin Sensitization
Species : Guinea pig
Result: non-sensitizing

Germ cell mutagenicity

- Genotoxicity in vitro: Test Type: Mutagenicity – Bacterial

Metabolic activation: +/- activation
Result: negative

- Test Type: Chromosome aberration test in vitro

Metabolic activation: +/- activation
Result: negative

- Test Type: Mutagenicity – Mammalian

Metabolic activation: +/- activation
Result: negative

Carcinogenicity
Not classified based on available information.

Product:
Remarks: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity
Not classified based on available information.

Product:
Effects on fertility: Remarks: No data available

STOT-single exposure
Not classified based on available information.

Product:
Remarks: No data available

STOT-repeated exposure
Not classified based on available information.

Product:
Remarks: No data available

Repeated dose toxicity

Product:
Species: Rat; 225 mg/kg/day

Application Route: in feed
Exposure time: 90 d

Aspiration toxicity
Not classified based on available information.

Information on likely routes of exposure

Product:
Inhalation : Remarks; None known.
Skin contact: Remarks; None known.
Eye contact: Remarks; None known.
Ingestion: Remarks; None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1. Ecotoxicity

All of the aquatic toxicity results indicate that there is no toxicity at the limit of water solubility. The data for SUNFLEKS show that it is not toxic at its maximally attainable water solubility level, which varies dependent on the conditions of study. Since SUNFLEKS does not cause acute or chronic aquatic toxic effects at the limits of water solubility, it is not possible to derive NOEC or PNEC values needed for quantitative risk assessment. However, it is possible to qualitatively conclude based on low solubility and the results of acute and chronic aquatic toxicity tests that SUNFLEKS does not pose an unacceptable risk to the aquatic compartment.

Product:

Toxicity to fish:	LC50 (Oryzias latipes (fathead minnow)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50: (daphnid): >= 180 mg/l Exposure time: 48 h Remarks: (limit of solubility in fresh water)
Toxicity to algae/aquatic plants:	NOEC: (Chlorella pyrenoidosa (aglae)): >= 100 mg/l Exposure time: 72 h Remarks: (limit of solubility in fresh water)
Toxicity to fish (Chronic toxicity):	NOEC: >= 0,00938 mg/l Exposure time: 60 d Species: Oncorhynchus mykiss (rainbow trout) Remarks: (limit of solubility in fresh water)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: >= 55,6 mg/l
Exposure time: 21 d
Species: daphnid
Remarks: (limit of solubility in fresh water)

12.2. Persistence and degradability

Product:

Biodegradation in water: Under test conditions no biodegradation observed. (4.2 % 28 days)

12.3. Bioaccumulative potential

BCF (aquatic species, fish): 2.7

12.4. Mobility in soil

Koc:350

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Should not be released to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Recycle if possible or send to an authorized incinerator. Follow the instructions in sections 'Accidental release measures' and 'Handling and storage' when handling waste spillages, taking the steps indicated in the same sections. We recommend recycling containers instead of disposal. Observe the local and national legislation in force.

13.2.Contaminated Packaging:

The empty containers, tank cars and tank trucks are treated with steam and rinsed with plenty of hot water. The resulted effluent are treated in the same way as waste. The empty and clean containers are to be reused in conformity with regulations. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues.

SECTION 14: TRANSPORT INFORMATION

General The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Transport Labels

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: Not applicable

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms used in the safety data sheet

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

IATA: International Air Transport Association.

ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

CAS: Chemical Abstracts Service.

ATE: Acute Toxicity Estimate.

LC_{50}: Lethal Concentration to 50 % of a test population.

LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).

EC_{50}: 50% of maximal Effective Concentration.

PBT: Persistent, Bioaccumulative and Toxic substance.

vPvB: Very Persistent and Very Bioaccumulative.

DNEL: Derived No Effect Level

PNEC: Predicted No-Effect Concentration

NOAEL: No observable adverse effect level

NOEC: No Observed Effect Concentration

Revision Comments

It has been reviewed in accordance with current regulations. The design of the form has been renewed using our company's new logo.

Issued By

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