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

1.1 Product identifiers

Chemical Name	CALCIUM BIS[MONOETHYL(3,5-DI-TERT-BUTYL-4-HYDROXYBENZYL)PHOSPHONATE
CAS NO.	65140-91-2

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

1. It is used as an antioxidant in a polyethylene wax carrier for polypropylene fibers.
2. It is also used in polyesters, cross linking elastomers, specialty adhesives, natural and synthetic resins.

Details of the supplier of the safety data sheet

COMPANY

POLYMER ADD (THAILAND) CO., LTD.
106, Chalaremprakiat, Lor 9, Soi 22, Yak 5,Nongbon, Prawet,Bangkok
Bangkok - 10250
Thailand
Telephone : 0804531391
Email - contact@polymeradd.co.th

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Human Health	STOT SE 3 Irritating to Specific target organ toxicity - Single Exposure - respiratory system) Combustible Dust

STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity single exposure
Dust Explosion Class: Dust Explosion Class 2	Kst-value 200 up to 300 bar m s-1) (St 2)	Formation of Flammable Gases Start: 220 Degrees C

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

Signal word	Hazard Statement
H335	May cause respiratory irritation.
Dust Explosion Class	Dust Explosion Class 2 (Kst-value 200 up to 300 bar ms-1)
Formation of Flammable Gases	Start Temperature 220 Degrees C
P271	Use only outdoors or in a well-ventilated area. Do not breathe dust/gas/mist/vapours.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403 + P233	Store in a well-ventilated place. Keep container

tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local regulations.

The product is under certain conditions capable of dust explosion.

2.3 Other hazards — The product is under certain conditions capable of dust explosion. Dust Explosion Class: Dust Explosion Class 2 Kst-value 200 up to 300 bar m s-1) (St 2) Formation of Start Temperature : 220 Degrees C

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Component

Chemical Name	Calcium bis[monoethyl(3,5-di-tertbutyl-4hydroxylbenzyl)phosphonate
CAS NO	65140-91-2
EC Number	265-512-0
Molecular Formula	C34H56O8P2Ca (Active component)
Molecular Weight	695 g/mol.
Concentration	100%

4 FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Remove contaminated clothing.

If inhaled — Keep patient calm, remove to fresh air, seek medical attention.

In case of skin contact — Wash thoroughly with soap and water.
If irritation develops, seek medical attention.

In case of eye contact — Wash affected eyes for at least 15 minutes under running water with eyelids held open.
If irritation develops, seek medical attention.

If swallowed — Rinse mouth immediately with water.
Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.
Do not induce vomiting due to aspiration hazard.
Seek medical attention.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Further important symptoms and effects are so far not known.

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

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5 FIREFIGHTING MEASURES

5.1 **Extinguishing media**

Suitable extinguishing media	Suitable extinguishing media: dry powder, foam. Unsuitable extinguishing media for safety reasons: carbon dioxide
5.2 **Special hazards arising from the substance or mixture**	Avoid whirling up the material/product because of the danger of dust explosion.
5.3 **Advice for firefighters**	Hazards during fire-fighting: harmful vapours Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.
5.4 **Further information**	Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6 ACCIDENTAL RELEASE MEASURES

6.1 **Personal precautions protective equipment and emergency procedures**

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Avoid the formation and build-up of dust - danger of dust explosion.

6.2 **Environmental precautions**

Contain contaminated water/firefighting water.
Do not discharge into drains/surface waters/groundwater.

6.3 **Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container regulations. Keep in suitable, closed containers for disposal. Non sparking tools should be used.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

6.4 **Reference to other sections**

No data available.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation.
Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air.
Handle to minimize dusting and eliminate open flame and other sources of ignition.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Refer to NFPA 654,Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing.

7.2 Information about protection against explosions and fires

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s-1).

7.3 Conditions for safe storage including any incompatibilities

Keep container tightly closed and dry; store in a cool place.
The packed product is not damaged by low temperatures or by frost.
The packed product will not be damaged by high temperatures.

7.4 Specific end use(s)

No data available

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.2 Exposure control

No occupational exposure limits known.

Appropriate engineering controls

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Technical measures/Precautions

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Use only appropriately classified electrical equipment and powered industrial trucks

Personal protective equipment

Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
The usual precautionary measures for handling chemicals should be followed.

Eye/face protection

Safety glasses with side-shields.

Hands protection

Wear chemical resistant protective gloves.

Skin protection

Handle with gloves.
Gloves must be inspected prior to use.
Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.
Dispose of Contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands.

Body Protection

No skin protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact. Body protection must be chosen based on level of activity and exposure.
Body protection must be chosen based on level of activity and exposure.

Respiratory protection

Breathing protection if breathable aerosols/dust are formed.
Wear respiratory protection if ventilation is inadequate.
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

9 PHYSICAL AND CHEMICAL PROPERTIES

a)Appearance	White to off white Powder
b)Odour	Odourless.
c)Odour Threshold	No applicable information available.
d)pH (% solution in water)	5.3 at 20-25 degrees C as suspension.
pH	No data available.
e)Melting point/freezing point	> 260 Deg C
f)Initial boiling point and boiling range	not applicable.
g)Flash point	> 150 Deg C (DIN 51758, closed cup)
h)Evaporation rate	The product is a non-volatile solid.
i)Flammability (solid or gas)	not highly flammable. Auto Ignition: 430-500 degrees C
j)Upper/lower flammability or explosive limits	Not relevant for classification & labeling.
k)Vapour pressure	< 0.0000001 Pa at 20 degrees C

	l)Vapour density	1.21 g/cm3 at 20 degrees C
	m)Relative density	Molar Mass: 348.43 g/mol
	n)Water solubility	2.4 g/l (20 - 25 degrees C)
	o)Partition coefficient: n-octanol/water	-0.08
	p)Autoignition temperature	>271 degrees C (Directive 92/69/EEC, A.16)
	q)Decomposition temperature	370 degrees C (DSC (OECD 113)
	r)Viscosity	No data available.
	s)Explosive properties	No data available.
	t)Oxidizing properties	No data available.
9.2	**Other safety information**	
	Bulk Density	300-600 kg/m3

10 STABILITY AND REACTIVITY

10.1	Reactivity	The product is stable. Avoid dust formation.
10.2	Chemical stability	The product is stable if stored and handled as prescribed/indicated.
10.3	Possibility of hazardous reactions	No hazardous reactions if stored and handled as prescribed/indicated.
10.4	Conditions to avoid	Dust formation, Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5	Incompatible materials	Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals.
10.6	Hazardous decomposition products	No hazardous decomposition products if stored and handled as prescribed/indicated. Thermal Decomposition : 370 Â°C (DSC (OECD 113)

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Assessment of acute toxicity: Virtually nontoxic after a single ingestion.
Acute oral toxicity	Type of value: LD50 Species: rat Value: > 5,000 mg/kg (similar to OECD guideline 401)
Acute Inhalation toxicity	Virtually nontoxic by inhalation. Inhalation Type of value: LC50 Species: rat Value: > 2.35 mg/l (similar to OECD guideline 403) Exposure time: 4 h

Acute dermal toxicity	Not determined.
Acute Irritation / corrosion toxicity	Assessment of STOT single: Causes temporary irritation of the respiratory tract. Assessment of irritating effects: Irritating to respiratory system. Prolonged exposure to the product can result in irritation of the skin and mucous membranes.
Skin corrosion/irritation	Non Irritant(skin)- Species: rabbit Result: non-irritant Method: Draize test
Serious eye damage/eye irritation	Non Irritant (Eye)- Species: rabbit Result: non-irritant Draize test
Respiratory or skin sensitization	Based on the ingredients, there is no suspicion of a skin-sensitizing potential. Species: guinea pig Result: Non-sensitizing. Method: OECD Guideline 406
Germ cell mutagenicity	No data available.
Carcinogenicity	Assessment of carcinogenicity: None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.
IARC	No relevant data available.
Reproductive toxicity	Assessment of reproduction toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs.
Specific target organ toxicity - single exposure	No relevant data available.
Specific target organ toxicity - repeated exposure	No relevant data available.
Signs and symptoms of exposure	No relevant data available.
Route of exposure	No relevant data available.
Aspiration hazard	No aspiration hazard expected.
Potential health effects	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further important symptoms and effects are so far not known.
Inhalation	No relevant data available.
Ingestion	No relevant data available.
Skin	No relevant data available.
Eyes	No relevant data available.

	RTECS	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further important symptoms and effects are so far not known.

12 ECOLOGICAL INFORMATION

12.1	Toxicity	Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
	Toxicity to fish	Toxicity to fish LC50 (96 h) > 100 mg/l, Brachydanio rerio (OECD Guideline 203)
	Toxicity to daphnia and other aquatic invertebrates	Aquatic invertebrates EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1)
	Toxicity to Algae/Aquatic plants	EC50 (72 h) > 100 mg/l, Scenedesmus sp
	Toxicity to microorganisms	OECD Guideline 209 activated sludge/EC50 (3 h): > 100 mg/l

12.2 **Persistence and degradability**

Biodegradation

The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.
(OECD 301B; ISO 9439; 92/69/EEC, C.4-C) Non-biodegradable.
In contact with water the substance will hydrolyse slowly.

12.3	Bio accumulative potential	Does not significantly accumulate in organisms. Bioconcentration factor: 38
12.4	Mobility in soil	The substance will not evaporate into the atmosphere from the water surface.
12.5	Results of PBT and vPvB assessment	No data available.
12.6	Other adverse effects	Do not discharge product into the environment without control.

13 DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**

Product

Do not discharge into drains/surface waters/groundwater.
Dispose of in accordance with national, state and local regulations.

Contaminated packaging

Dispose of in accordance with national, state and local regulations.
Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14 TRANSPORT INFORMATION

14.1 UN number

ADR/RID	IMDG	IATA
NON HAZARDOUS	NON HAZARDOUS	NON HAZARDOUS

14.2 UN proper shipping name

ADR/RID	IMDG	IATA
-	-	-

14.3 Transport hazard class(es)

ADR/RID	IMDG	IATA
-	-	-

14.4 Packaging group

ADR/RID	IMDG	IATA
-	-	-

14.5 Environmental hazards

ADR/RID	IMDG Marine pollutant	IATA
-	-	-

14.6 Special precautions for user — No data available

15 REGULATORY INFORMATION

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

No data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16 OTHER INFORMATION

Month of Creation	March 2023
Month of Revision	March 2027