SAFETY DATA SHEET

Date Printed:
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Regulation: In accordance with Commission Regulation (EU) 2020/878

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

1.1 Product identifier
Product name: CTBA-8740BK
EC No.: Not applicable
REACH Registration No.: Refer to chapter 3.
CAS No.: Not applicable

1.2 Relevant identified uses of the substance or mixture and uses advised against
1.2.1 Identified Uses
- It is used for wires.

1.2.2 Recommended use
- It is used for wires.

1.2.3 Restrictions on use
- Do not use for purposes other than those recommended.

1.3 Details of the supplier of the safety data sheet
1.3.1 Manufacturer
Company name: Hanwha Solutions Co, Ltd.
Address: Yeosu plant, Hanwha Solutions Co, Ltd., 117, Yeosusandan 3-ro, Yeosu-si, Jeollanam-do, Korea
Prepared by: W&C Production Team
Contact Telephone: +82-61-688-1582, Fax: +82-61-688-1585

1.3.2 Supplier & Distributor
Company name: Hanwha Solutions Co, Ltd.
Address: 21F, Hanwha Bldg., Janggyo-dong, Jung-gu, Seoul, Korea
Prepared by: PO Tech Center, W&C Sales Team
Contact Telephone: +82-728-2689, Fax: +82-2-729-2563
Email Address: raehyun.yu@hanwha.com

1.4 Emergency telephone number
Emergency Telephone: +82-2-729-2689, +49-6196-5016

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 (CLP)

Physical / Chemical Hazards: Not classified

Health Hazards: Reproductive toxicity: Category1B

Environmental Hazards: Not classified

2.2 Label elements
o Hazard pictograms:

o Signal word: Danger

o Hazard statement:

H360 May damage fertility or the unborn child.

o Precautionary statements:

- Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

- Response

P308+P313 If exposed or concerned: Get medical advice/attention.

- Storage

P405 Store locked up.

- Disposal

P501 Dispose the contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

- Additional precautionary statements: EUH210- 'Safety data sheet available on request'.

- National Fire Protection Association (NFPA):

Health: 1
Flammability: 0
Reactivity: -

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: Not applicable

3.2 Mixtures:

Component	CAS No.	EC No.	Conc. / %	Classification according to 1272/2008/EC	SCL/ M-factor/ ATE	Registration No.
2-Propenoic acid butyl ester polymer with ethane	25750-84-9	607-803-0	50-70	Not classified	-	Ethylene : 01-2119462827-27-0000 Butyl acrylate : 05-2116704464-50-0000
Carbon black	1333-86-4	215-609-9	30-50	Not classified	ATE(oral) >8,000 mg/kg bw ATE(dermal) > 2,000 mg/kg bw ATE(inhalation) > 4.6 mg/m^3	01-2119384822-32-0000
Dicumyl Peroxide	80-43-3	201-279-3	0.5-2	Org. Perox. F Skin Irrit. 2 Eye Irrit. 2 Aquatic Chronic 2 Repr. 1B	ATE(oral) ≥ 2,000 mg/kg bw ATE(dermal) > 2,000 mg/kg bw	01-2119541688-27-0000

*Under EU REACH regulation, monomers in Polyethylene copolymer are registered.

4. FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 General information: Remove soiled or soaked clothing immediately, do not allow to dry.
Adhere to personal protective measures when giving first aid.
Clean body thoroughly (Bad, shower).

4.1.2 Following inhalation: If exposed or concerned: Get medical advice/attention.

	Move victim to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Keep victim warm and quiet.
4.1.3 Following skin contact:	Call emergency medical service. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin.
4.1.4 Following eye contact:	Call emergency medical service. In case of contact with substance, immediately flush eyes with running water at least 20 minutes.
4.1.5 Following ingestion:	If exposed or concerned: Get medical advice/attention. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
4.1.6 Self-protection of the first aider:	First aider: Pay attention to self-protection!

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

- Symptoms and effects: None known.

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

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media: Dry chemical, Alcohol foam, carbon dioxide, water, regular foam
- Unsuitable extinguishing media: Not available

5.2 Specific hazards arising from the substance or mixture

- May decompose at high temperatures into forming toxic gases.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.
- Non-combustible, substance itself does not burn but may decompose upon heating, then produce corrosive and/or toxic fumes.

5.3 Advice for firefighters

- Rescuers should put on appropriate protective gear.
- Evacuate area and fight fire from a safe distance.
- Substance may be transported in a molten form.
- Dike fire-control water for later disposal; do not scatter the material.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; Always stay away from tanks engulfed in fire.
- Fire involving Tanks; For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

- Clean up spills immediately, observing precautions in Protective Equipment section.
- Keep unnecessary and unprotected personnel from entering.
- Stop leak if you can do it without risk.
- Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

6.1.2 For emergency responders

- Isolate hazard area.
- Eliminate all ignition sources.
- Cover with plastic sheet to prevent spreading.
- Please note that there are materials and conditions to avoid.
- For further information refer to section 8.2.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

- Absorb spills with inert material (e.g. dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.

6.4 Reference to other sections

- If appropriate, Section 8 and 13 shall be referred to.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Since the risk of ignition is high when storing plastic dust that has undergone a polymerization process or abnormal work, temperature monitoring inside the dust is required during the process. In case of abnormal work, management of ignition source or the dust removal is needed.
- Even though the average particle size is large, plastic dust has a high ratio of fine dust with micrometer size. It is necessary to be careful with the risk of ignition or explosion since airborne dust has low minimum ignition energy.
- Management of the dust concentration is required when handling and using dust. Because the lower limit of the explosion of plastic dust is 50g/㎥ or less, the frequency of fire explosions is high.
- Do not handle until all safety precautions have been read and understood.
- Follow all SDS/Label precautions even after container is emptied because they may retain product residues.
- Use carefully in handling/storage.
- Loosen closure cautiously before opening.
- Avoid breathing vapors from heated material.
- Do not enter storage area unless adequately ventilated.
- Please note that there are materials and conditions to avoid.

7.2 Conditions for safe storage, including any incompatibilities

- Stored locked up.
- Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

7.3 Specific end use(s)

- Recommendations shall relate to the identified use(s) referred to in subsection 1.2 and be detailed and operational.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limits

<2-Propenoic acid butyl ester polymer with ethane>

- **o EU regulation:** Not available
- **o U.S regulation:** Not available
- **o ACGIH:** Not available
- **o Biological exposure index:** Not available
- **o Others:** Not available
- **o DNELs, PNECs:** Not available

<Carbon black>

- **o EU regulation:** Not available
- **o U.S regulation:**
  - NIOSH: TWA=3.5 mg/m^3; 0.1 mg/m^3 (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)
  - OSHA: TWA=3.5 mg/m^3
- **o ACGIH: :** TWA = 3 mg/m^3 (inhalable fraction)
- **o Biological exposure index:** Not available
- **o Others:**
  - Malaysia: TWA=3.5mg/m^3
  - Bahrain: TWA=3.5mg/m^3
  - China: TWA=4mg/m^3 (total dust), STEL= 8mg/m^3 (total dust)
- **o DNELs, PNECs:**

Exposure route of relevance	**DNELs, DMELs, PNECs**											
	Industrial				**Professional**				**Consumer**			
	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect
Human: oral (mg/kg bw/day)	-	-	-	-	-	-	-	-	-		-	-
Human: inhalation (mg/m^3)	-	1	-	-	-	-	-	-	-	0.06	-	-
Human: dermal (mg/kg bw/day)	-	-	-	-	-	-	-	-	-	-	-	-
Environment: water	50 mg/L(Freshwater)											
Environment: air	-											
Environment: soil	-											
Environment: sediment	-											
Environment: STP	-											
Environment: Predators	No potential for bioaccumulation											

<Dicumyl peroxide>

- **o EU regulation:** Not available
- **o U.S regulation:** Not available
- **o ACGIH:** Not available
- **o Biological exposure index:** Not available
- **o Others:** Not available
- **o DNELs, PNECs:**

Exposure route of relevance	**DNELs, DMELs, PNECs**		
	Industrial	**Professional**	**Consumer**

	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect	Long term, Local effects	Long term, systemic effects	Short term, local effects	Short term, systemic effect
Human: oral (mg/kg bw/day)	-	-	-	-	-	-	-	-	-	0.4	-	-
Human: inhalation (mg/m^3)	-	5.6	-	-	-	-	-	-	-	1.4	-	-
Human: dermal (mg/kg bw/day)	Low hazard	0.8	Low hazard	-	-	-	-	-	Low hazard	0.4	Low hazard	-
Environment: water	2.34 µg/L(freshwater),											
Environment: air	-											
Environment: soil	447 µg/kg soil dw											
Environment: sediment	2.24 mg/kg sediment dw(freshwater)											
Environment: STP	100 mg/L											
Environment: Predators	No potential for bioaccumulation											

8.2 Exposure controls

Appropriate engineering controls:

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

- Follow the European Standard EN149. Use a European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Eye protection:

- Wear breathable safety goggles to protect from particulate material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.

Hand protection:

- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

Body protection:

- Wear appropriate clothing by considering physical and chemical properties of chemicals.

Thermal hazards:

- If appropriate, Section 5.3 shall be referred to.

Environmental exposure controls: Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Solid(Pellet)
Color:	Black
Odor:	Odorless
Odor threshold:	Not available

pH:	Not available
Melting point/freezing point:	90~110℃
Boiling point or initial boiling point and boiling range:	Decomposes when heated
Flash point:	Not applicable
Evaporation rate:	Not available
Flammability (solid, gas):	Non flammable
Upper/lower flammability or explosive limits:	Not applicable
Vapour pressure:	Not available
Vapour density:	Not applicable
Density and/or relative density:	Not available
Solubility(ies):	Insoluble in water
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not available
Viscosity:	Not applicable
Kinematic viscosity:	Not applicable
Explosive properties:	Not available
Oxidizing properties:	Not available
Molecular weight:	Not available(mixture)
Specific gravity:	1.15±0.05(23 ℃)
Particle characteristics (solid):	Not available
Particle Size (Polymer compound)	Not available
Self-accelerated decomposition temperature (Polymer compound)	Not available

9.2 Other information: Not available

10. STABILITY AND REACTIVITY

10.1 Reactivity
- Containers may explode when heated.

10.2 Chemical stability
- Some of these materials may burn, but none ignite readily

10.3 Possibility of hazardous reactions
- May decompose at high temperatures into forming toxic gases.
- Non-combustible, substance itself does not burn but may decompose upon heating, then produce corrosive and/or toxic fumes.

10.4 Conditions to avoid
- Heat, sparks or flames

10.5 Incompatible materials
- Oxidizing agent, Reducing agent

10.6 Hazardous decomposition products
- Corrosive and/or toxic fume
- irritating, corrosive and/or toxic gases

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008	
(a) Acute toxicity	

Oral	Not classified (ATE_{mix} > 7,002 mg/kg bw)
	- Carbon black: ・Rat, LD_{50} > 8,000 mg/kg (OECD TG 401) - Dicumyl Peroxide : ・LD_{50} (rat, male/female) >= 2,000 mg/kg bw, no deaths (OECD TG 401, GLP)
Dermal	Not classified (ATE_{mix} > 2,000 mg/kg bw)
	- Carbon black: ・Rabbit, LD_{50} > 2,000 mg/kg bw(OECD Guideline) - Dicumyl Peroxide : ・LD_{50} (rat, male/female) > 2,000 mg/kg bw, no deaths (OECD TG 402, GLP)
Inhalation	Not classified (ATE_{mix} > 7,620 mg/L)
	- Carbon black: ・Rat, LC_0 > 4.6 mg/m^3 (OECD TG 403)
(b) Skin Corrosion/ Irritation	Not classified
	- Carbon Black: ・In test on skin irritation with rabbits, skin irritation was not observed. (OECD TG 404) - Dicumyl Peroxide : ・The substance was not irritating when tested on rabbit skin. (OECD TG 404, GLP)
(c) Serious Eye Damage/ Irritation	Not classified
	- Carbon black : ・In test on eye irritation with rabbits, eye irritations were not observed. (OECD TG 405) - Dicumyl Peroxide : ・The substance was not irritating when tested on rabbit eye. (OECD TG 405, GLP)
(d) Respiratory sensitization	Not available
(e) Skin Sensitization	Not classified
	- Carbon black: ・Under experimental conditions, carbon black is not considered a contact sensitizer in the LLNA (OECD TG 429, GLP) - Dicumyl Peroxide : ・The result of the LLNA test indicated, that dicumyl peroxide is not sensitizing to skin of mice when tested at concentration up to 50%. (OECD TG 429, GLP)
(f) Carcinogenicity	Not classified * There is no data on carcinogenicity of the product, but the carbon black in the product corresponds to a chip-type masterbatch that has been mixed in the substrate and subjected to a compression process. Therefore, the classification for carcinogenicity does not apply because workers are unlikely to be exposed to the powder directly during storage and handling.
	- 2-Propenoic acid butyl ester polymer with ethane : ・IARC, NTP, OSHA, ACGIH, EU CLP 1272/2008: not listed - Carbon black : ・IARC: Group 2B(Possibly carcinogenic to humans)

	· OSHA: Applicable · ACGIH: A3(Confirmed animal carcinogen with unknown relevance to humans) · The lung cancers in rats are considered by some to be the result of a non-genotoxic mechanism secondary to cellular toxicity brought about by lung overloading, inflammation, and oxidative stress. The relevance of Carbon Black induced lung tumours in rats to human health is uncertain, and it appears that the rat is the most sensitive species to the effects of lung overload. At present the potential of the chemical to induce lung tumours in humans cannot be ruled out on theoretical grounds, although the epidemiological evidence* does not suggest such a causal link. * Regarding lung cancer, various cohort and case-controlled studies in the United States did not show an increased risk of lung cancer among carbon black-producing workers. In a cohort study of workers exposed to carbon black in the UK, lung cancer was excessive in some factories, but not all factories were included in the study, there was no association between exposure duration and lung cancer mortality, and no possible confusion due to smoking or past occupation. - Dicumyl Peroxide : · IARC, NTP, OSHA, ACGIH, EU CLP 1272/2008: not listed · As dicumyl peroxide was found to be negative in genotoxicity tests in vitro and showed only weak activity as a tumor promotor the overall conclusion can be drawn that the substance has no carcinogenic potential.
(g) Germ cell mutagenicity	Not classified
	- Carbon black : · *In vitro*: Bacterial Reverse Mutation Assay : negative · *In vitro*: mouse lymphoma assay : negative · *In vitro*: sister chromatid exchanges assay : negative · It may be concluded that the available evidence strongly suggests that it is not directly mutagenic. - Dicumyl Peroxide : · *In vitro*: Gene mutation study in bacteria: Metabolic activation: with and without; negative (OECD TG 471, GLP) · *In vitro*: Mammalian Chromosome Aberration Test: Metabolic activation: with and without; negative (OECD TG 473, GLP) · *In vitro*: Mammalian Cell Gene Mutation Test: Metabolic activation: with and without; negative (OECD TG 476, GLP)
(h) Reproductive toxicity	Category 1B
	- Carbon black : · Carbon black has not been tested in guideline studies for its effects on fertility, reproduction and the developing organism. Based on the available toxicokinetic principles, it is very unlikely that carbon black particles will reach the reproductive organs, the embryo or the fetus under in vivo conditions. No adverse effects on reproduction and development would therefore be expected. - Dicumyl Peroxide: · In a developmental toxicity study according to OECD 414, dicumyl peroxide was administered to 24 pregnant female rats per dose by oral gavage at dose levels of 0, 50, 150 and 450 mg/kg bw/day. Effects of the highest dose on embryos included increased post implantation loss (and lower number of viable foetuses), a decreased foetal weight, an increased percentage of foetuses with body weight retardation, malrotated fore- and hindlimbs as well as skeletal malformations of the pectoral girdle and extremities, increase of skeletal variations and placentas with dark

	brownish discoloration or fibrinoid degeneration possibly due to the marked maternal toxicity. The maternal LOAEL is 450 mg/kg bw/day. The maternal NOAEL is 150 mg/kg bw/day. The developmental LOAEL is 450 mg/kg bw/day. The developmental NOAEL is 150 mg/kg bw/day. (OECD TG 414, GLP) · Placing greater weight, both on the increased intrauterine mortality and on the specific effects observed from the skeletal malformations, and with the comparisons of the individual dam/litter data between maternal toxicity and foetal toxicity showing no correlation, then the observed teratogenicity / developmental toxicity was not secondary to the maternal toxicity. Overall RAC considered that the criteria for classification for developmental toxicity were met for a presumed human reproductive toxicant, thus bis(α,α-dimethylbenzyl) peroxide warrants classification as Repr. 1B; H360D.(Committee for Risk Assessment RAC Opinion)
(i) Specific target organ toxicity (single exposure)	Not classified
	- Carbon black : · The acute oral toxicity of carbon black in animals is very low; no clinical signs of toxicity were noted in rats gavaged with the maximum technically achievable dose (8,000-10,000 mg/kg bw). · Small inflammatory changes in lung and bronchoalveolar fluid were found in rats after a 7-hour inhalation exposure to a high surface area carbon black (20 nm primary particle size; 1 mg/m^3), whilst low surface area carbon black (200 nm primary particle size; 1 mg/m^3) had no effect.
(j) Specific target organ toxicity (repeat exposure)	Not classified * There is no data on carcinogenicity of the product, but the carbon black in the product corresponds to a chip-type masterbatch that has been mixed in the substrate and subjected to a compression process. Therefore, the classification for specific target organ toxicity (repeat exposure) does not apply because workers are unlikely to be exposed to the powder directly during storage and handling.
	- Carbon black: · After repeated inhalation of a high surface area carbon black for 13 weeks, no pathological or biochemical changes were found in the lungs of rats at 1.1 mg/m3 (NOAEL, respirable fraction) but there were clear dose related increases in both biochemical and cellular markers of inflammation and lung damage at the next higher concentration of 7.1 mg/m^3 (respirable fraction). By 8 months post-exposure there was substantial clearance of the carbon black retained in the lungs of animals exposed to 1.1 mg/m^3, moderate clearance in the mid-exposure group (7.1 mg/m^3) and very little at 52.8 mg/m^3. Severe lung damage (including lung tumours) was seen in rats of both sexes exposed for 2 years to 2.5 mg/m^3 (16 hrs/day, 5 days/week). - Dicumyl Peroxide : · In a subchronic toxicity study, this substance was administered to rats by oral gavage at dose levels of 0, 20, 80, 320 mg/kg bw/day. It caused salivation, changes in body weight and body weight gain, in feed efficiency, clinical chemistry parameters (ALT, GGT, total bilirubin, blood urea nitrogen, bile acid or inorganic phosphorous) and organ weights (liver and kidneys) after repeated dose oral administration to male and female rats. The LOAEL is 320 mg/kg bw/day. The NOAEL is 80 mg/kg bw/day. (OECD TG 408, GLP) · Repeated oral toxicity was investigated in a study according to OECD Guideline 407 over. Rats were exposed to 60, 200 and 600 mg/kg. No

	deaths were observed in any of the treatment groups in either sex. NOAEL = 60 mg/kg bw/day(nominal), LOAEL = 200 mg/kg bw/day (nominal) (Increased relative liver weights and histopathologically, hypertrophy of hepatocytes in both sexes at 200 mg/kg/d), (OECD TG 407, GLP)
(k) Aspiration Hazard	Not applicable
11.2 Information on other hazards	
11.2.1 Endocrine disrupting properties	Not available
11.2.2 Other information	Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity	
Acute toxicity	Not classified (ATE_{mix} > 175 mg/L)
	- Carbon black : ・Fish: 96h-LC_{50} (*Tribolodon hakonensis*) > 1,000 mg/L ・Invertebrate: 24h-EC_{50} (*Daphnia magna*) > 5,600 mg/L (OECD TG 202) ・Algae: 72h-ErC_{50} (*Scenedesmus*) > 10,000 mg/L * Acute toxicities were not reported at levels up to the water solubility due to being insoluble in water. - Dicumyl Peroxide : ・Fish: Not available ・Invertebrate: 48h-EC_{50} (*Daphnia magna*) > 100 mg/L (semi-static, freshwater) (OECD TG 202, GLP) ・Algae: 72h-ErC_{50} (*Pseudokirchneriella subcapitata*) > 1,000 mg/L (static, freshwater) (OECD TG 201, GLP)
Chronic toxicity	Not classified
	- Dicumyl Peroxide : ・Fish: Not available ・Invertebrate: 21d-$NOEC_{reproduction}$ (*Daphnia magna*) = 0.177 mg/L (semi-static, freshwater) (OECD TG 211, GLP) ・Algae: 72h-NOECr (*Pseudokirchneriella subcapitata*) = 10 mg/L (static, freshwater) (OECD TG 201, GLP)
12.2 Persistence and degradability	- Carbon black : ・It is not biodegradable by micro-organisms. - Dicumyl Peroxide : ・Hydrolysis half-life : 23.8d (pH 4, 25 °C), 29.2d (pH 7, 25 °C), 29.9d (pH 9, 25 °C) (OECD TG 111, GLP) ・18% degradation after 28d; not readily biodegradable (OECD TG 301D, GLP)
12.3 Bioaccumulative potential	- Carbon black : ・Based on its insolubility in organic solvents, and in water, a relevant bioaccumulation of carbon black is not expected. - Dicumyl Peroxide : ・log K_{ow} = 5.6 (25 °C) (OECD TG 117) ・BCF = 137-1,470 (Concentration in environment : 0.01 mg/L) BCF = 181-667 (Concentration in environment : 0.001 mg/L) (OECD TG 305C)
12.4 Mobility in soil	- Dicumyl Peroxide : ・K_{oc} = 9,549.93 (OECD TG 121, GLP)

12.5 Results of PBT and vPvB assessment	- Carbon black: The substance is not PBT / vPvB - Dicumyl Peroxide : The substance is not PBT/vPvB.
12.6 Endocrine disrupting properties	Not available
12.7 Other adverse effects	Not available
12.8 Additional information	Not available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
- Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

13.1.1 Product/Packaging disposal
- No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer.
- The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm/producing firm/official authority.

13.1.2 Waste treatment-relevant information
- Waste must be disposed of in accordance with directive 2008/98/EC.

13.1.3 Sewage disposal-relevant information:
- Release to the environment or sewage system is prohibited. Must be treated as hazardous waste.

13.1.4 Other disposal recommendations: Not available

14. TRANSPORT INFORMATION

14.1 UN No.: Not applicable

14.2 UN Proper shipping name: Not applicable

14.3 Transport Hazard class:
ADR: Not applicable
IMDG: Not applicable
ICAO/IATA: Not applicable
RID: Not applicable

14.4 Packing group: Not applicable

14.5 Environmental hazards: Not applicable

14.6 Special precautions for user
in case of fire: Not applicable
in case of leakage: Not applicable

14.7 Maritime transport in bulk according to IMO instruments: Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
<2-Propenoic acid butyl ester polymer with ethane>
EU Regulatory Information

EU classification
EU 1272/2008(CLP)
Classification: Not applicable
Risk phrases: Not applicable
Safety phrases: Not applicable
EU SVHC list: Not regulated
EU Authorization list: Not regulated
EU Restriction list: Not regulated

<Carbon black>
EU Regulatory Information
EU classification
EU 1272/2008(CLP)
Classification: Not applicable
Risk phrases: Not applicable
Safety phrases: Not applicable
EU SVHC list: Not regulated
EU Authorization list: Regulated(Reason for inclusion : Possible human carcinogen according to IARC Criteria EC : 215-609-9)
EU Restriction list: Regulated

<Dicumyl peroxide>
EU Regulatory Information
EU classification
EU 1272/2008(CLP)
Classification: Org. Perox. F, Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 2, Repr. 1B
Risk phrases: H242, H315, H319, H411, H360D
Safety phrases: P234, P210, P220, P280, P264, P201, P202, P273, P308+P313, P305+P351+P338, P337+P313, P302+P352, P362+P364, P332+P313, P321, P391, P405, P410, P411+P235, P420, P501
EU SVHC list: Regulated (REACH - Candidate List of Substances of Very High Concern for Authorisation(Article 59), Reason for inclusion: Toxic for reproduction (Article 57c))
EU Authorization list: Not regulated
EU Restriction list: Regulated

Foreign Inventory Status
<2-Propenoic acid butyl ester polymer with ethane>
- Korea management information: Existing Chemical Substance (KE-29456)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present [XU] (ACTIVE)
- Canada management information: Domestic Substances List (DSL): Present
- Australia management information: Inventory of Industrial Chemicals (AIIC): Present
- New Zealand management information: Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (03825)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((6)-19) (listed under Copolymer of: ethylene; alkyl acrylate)
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present
- Taiwan management information: Taiwan Chemical Substance Inventory (TCSI): Present

<Carbon black>
- Korea management information: Existing Chemical Substance (KE-04682)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present (ACTIVE)
- Canada management information: Domestic Substances List (DSL): Present
- Australia management information: Inventory of Industrial Chemicals (AIIC): Present
- New Zealand management information: Inventory of Chemicals (NZIoC): Present [HSNO Approval: HSR002801]
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (34022)

- Japan management information: Existing and New Chemical Substances (ENCS): Present ((5)-5222, (5)-3328)
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present
- Taiwan management information: Taiwan Chemical Substance Inventory (TCSI): Present

<Dicumyl Peroxide>
- Korea management information: Existing Chemical Substance (KE-03299)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present (ACTIVE)
- Canada management information: Domestic Substances List (DSL): Present
- Australia management information: Inventory of Industrial Chemicals (AIIC): Present
- New Zealand management information: Inventory of Chemicals (NZIoC): Present [HSNO Approval: HSR001374]
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (14132)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((3)-1086))
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present
- Taiwan management information: Taiwan Chemical Substance Inventory (TCSI): Present

15.2 Chemical safety assessment: Not available

16. OTHER INFORMATION

Product safety data sheet for prepared in accordance with Commission Regulation (EU) 2020/878

16.1 Indication of changes:

Preparation date: April 27, 2020
Version: 6
Revision date: October 2, 2024

16.2 Key literature reference and sources for data:

TSCA; http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/searchbylist/search.do
EU Regulation 1272/2008
RightAnswer-LOLI; https://www.rightanswerknowledge.com/n0home.asp
UN Recommendations on the transport of dangerous goods Twenty-second revised edition
IARC Monographs on the Identification of Carcinogenic hazard to Humans;
http://monographs.iarc.who.int
ECHA CHEM; http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances
ECHA: bis(α,α-dimethylbenzyl) peroxide/registration-dossier
RAC Opinion; Committee for Risk Assessment (Proposing harmonized classification and labelling at EU level of bis(α,α-dimethylbenzyl) peroxide, 06, 2018)
OECD SIDS; https://www.oecd.org/
HSDB; https://pubchem.ncbi.nlm.nih.gov/
EPA; http://www.epa.gov/iris
EPISUITE Program ver.4.1
NIOSH(The National Institute for Occupational Safety and Health)
ACGIH(American Conference of Governmental Industrial Hygienists)

16.3 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008(CLP):

Classification according to Regulation (EC) 1272/2008 (CLP)	Classification procedure
Reproductive toxicity: Category1B	Generic concentration limit

16.4 Abbreviations

EC_{50}: median effective concentration
LC_{50}: median lethal concentration
LD_{50}: median lethal dose
OEL: Occupational exposure limit
PBT: Persistent, bioaccumulative, toxic chemical
STEL: short-term exposure limit

TWA: time weighted average
vPvB: very persistent, very bioaccumulative chemical
EWC: the European Waste Code
SCL: Specific concentration limit
M-factor: Multiplication factor
ATE: Acute toxicity estimate

16.5 Other

- Product should be handled, stored, and used in accordance with the generally accepted industrial hygiene practices and in conformity with all the applicable legal regulations.
- The information provided herein is based on the knowledge possessed at this present time from the view point of safety requirements.
- It should, therefore, not be construed as guaranteeing specific properties.