

# **SAFETY DATA SHEET**

**Date Printed:**

**Version:** 2

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

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

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### **1.1 Product identifier**

**Product name:** CTBA-8745BK

**EC No.:** Not applicable

**REACH Registration No.:** Refer to chapter 3.

**CAS No.:** Not applicable

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

#### **1.2.1 Identified Uses**

- It is used for insulation of medium-voltage EPR cables.

#### **1.2.2 Recommended use**

- It is used for insulation of medium-voltage EPR cables.

#### **1.2.3 Restrictions on use**

- Do not use for purposes other than those recommended.

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### **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: +82-61-688-1550, Fax: +82-61-688-1585

#### **1.3.2 Supplier & Distributor**

Company name: Hanwha Solutions Co, Ltd.

Address: 21F, Hanwha Bldg., 86, Cheonggyecheon-ro, Jung-gu, Seoul, Korea

Prepared by: W&C Sales team

Contact Telephone: +82-2-729-2689, e-mail: raehyun.yu@hanwha.com, Fax: +82-2-729-2563

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### **1.4 Emergency telephone number**

**Emergency Telephone:** +82-2-729-2689, +49-6196-5016

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## **2. HAZARDS IDENTIFICATION**

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### **2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 (CLP)

**Physical / Chemical Hazards:** Not classified

**Health Hazards:** Not classified

**Environmental Hazards:** Not classified

### **2.2 Label elements**

- o **Hazard pictograms:** Not applicable
- o **Signal word:** Not applicable
- o **Hazard statement:** Not applicable
- o **Precautionary statements:** Not applicable

### **2.3 Other hazards**

- **Additional precautionary statements:** Not available
- **National Fire Protection Association (NFPA):**
  - Health:** 0
  - Flammability:** Not available
  - Reactivity:** Not available

### 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.
Ethylene Butyl Acrylate	25750-84-9	607-803-0	55~58	Not classified	-	Ethylene : 01-2119462827-27-0000 Butyl acrylate : 05-2116704464-50-0000
Carbon black	1333-86-4	215-609-9	35~45	Not classified	ATE(oral) >8,000 mg/kg bw ATE(dermal) > 2,000 mg/kg bw ATE(inhalation) > 4.6 mg/m <sup>3</sup>	01-2119384822-32-0000
[1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis [(1,1-dimethylethyl) peroxide	25155-25-3	246-678-3	0.5~1	Org. Perox Type D	ATE(oral) >2,000 mg/kg bw ATE(dermal) > 2,000 mg/kg bw	Not applicable

### 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:

Specific medical treatment is urgent.  
Move victim to fresh air.  
Give artificial respiration if victim is not breathing.  
Administer oxygen if breathing is difficult.

##### 4.1.3 Following skin contact:

In case of contact with substance, immediately flush skin with running water for at least 20 minutes.  
Remove and isolate contaminated clothing and shoes.  
Wash contaminated clothing and shoes before reuse.  
Get immediate medical advice/attention.

##### 4.1.4 Following eye contact:

In case of contact with substance, immediately flush eyes with running water at least 20 minutes.  
Get immediate medical advice/attention.

##### 4.1.5 Following ingestion:

Do not let him/her eat anything, if unconscious.  
Get immediate medical advice/attention.

##### 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.

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**5. FIRE-FIGHTING MEASURES**

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**5.1 Extinguishing media**

- Suitable extinguishing media: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO<sub>2</sub>
- Unsuitable extinguishing media: High pressure water streams

**5.2 Specific hazards arising from the substance or mixture**

- May explode from heat, sparks, or flames.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.
- Fire will produce irritating, corrosive and/or toxic gases.
- If inhaled, may be harmful.

**5.3 Advice for firefighters**

- 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; 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.

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**6. ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures****6.1.1 For non-emergency personnel**

- Stop leak if you can do it without risk.
- Do not touch or walk through spilled material.

**6.1.2 For emergency responders**

- Eliminate all ignition sources.
- Please note that materials and conditions to avoid.
- Ventilate the contaminated area.
- Prevent dust cloud.
- For further information refer to section 8.2.

**6.2 Environmental precautions**

- Prevent entry into water ways, sewers, basements or confined areas.

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

- Small Spill; Flush area with flooding quantities of water. And take up with sand or other non-combustible absorbent material and place into containers for later disposal.
- Large Spill; Dike far ahead of liquid spill for later disposal.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**6.4 Reference to other sections**

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

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**7. HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

- Please note that materials and conditions to avoid.

- Wash thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store in a closed container.
- Store in cool and dry place.

### 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

##### < Carbon black >

- o **EU regulation:** Not available
- o **U.S regulation:** TWA=3.5 mg/m<sup>3</sup> (Final PELs); 3.5 mg/m<sup>3</sup> (Vacated PELs)
- o **ACGIH:** TWA=3 mg/m<sup>3</sup> (inhalable particulate matter)
- o **Biological exposure index:** Not available
- o **Others:**
  - Australia: TWA= 3 mg/m<sup>3</sup>
  - China: TWA=4 mg/m<sup>3</sup> (total dust)
  - Denmark: TWA=3.5 mg/m<sup>3</sup>
- o **DNELs, PNECs:** Not available

### 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:

- Wear European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.

##### 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 protective 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

<b>Physical state:</b>	Solid, Pellet
<b>Color:</b>	Black
<b>Odor:</b>	Not available
<b>Odor threshold:</b>	Not available
<b>pH:</b>	Not available
<b>Melting point/freezing point:</b>	Not available
<b>Boiling point or initial boiling point and boiling range:</b>	Not available
<b>Flash point:</b>	Not available
<b>Evaporation rate:</b>	Not applicable as it is solid
<b>Flammability (solid, gas):</b>	Not available
<b>Upper/lower flammability or explosive limits:</b>	Not available
<b>Vapor pressure:</b>	Not available
<b>Vapor density:</b>	Not available
<b>Density and/or relative density:</b>	Not available
<b>Solubility(ies):</b>	Not available
<b>Partition coefficient: n-octanol/water:</b>	Not available
<b>Auto-ignition temperature:</b>	Not available
<b>Decomposition temperature:</b>	400°C
<b>Viscosity:</b>	Not available
<b>Kinematic viscosity:</b>	Not available
<b>Explosive properties:</b>	Not available
<b>Oxidizing properties:</b>	Not available
<b>Molecular weight:</b>	Not applicable as it is mixture
<b>Specific gravity:</b>	Not available
<b>Particle characteristics (solid):</b>	Not available
<b>Particle Size (Polymer compound)</b>	3~4 mm (pellet form, depth @ height)
<b>Self-accelerated decomposition temperature (Polymer compound)</b>	Not available

**9.2 Other information:** Not available

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## 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

- Not available

### 10.2 Chemical stability

- If inhaled, may be harmful

### 10.3 Possibility of hazardous reactions

- Fire may produce irritating and/or toxic gases.

### 10.4 Conditions to avoid

- Ignition sources of Heat, sparks or flames etc.

### 10.5 Incompatible materials

- Combustibles

### 10.6 Hazardous decomposition products

- irritating and/or toxic gases

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## 11. TOXICOLOGICAL INFORMATION

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11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
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(a) Acute toxicity	
Oral	Not classified (ATE <sub>mix</sub> > 7,478 mg/kg bw)
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· Rat, LD<sub>50</sub> &gt; 8,000 mg/kg bw</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>· Rat (male/female), LD<sub>50</sub> &gt; 2,000 mg/kg bw (OECD TG 401, 423, GLP)</li> </ul> </li> </ul>
Dermal	Not classified (ATE <sub>mix</sub> > 2,000 mg/kg bw )
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· Rat, LD<sub>50</sub> &gt; 2,000 mg/kg bw (OECD Guideline)</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide]: <ul style="list-style-type: none"> <li>· Rat (male/female), LD<sub>50</sub> &gt; 2,000 mg/kg bw (OECD TG 402, GLP)</li> </ul> </li> </ul>
Inhalation	Not classified(ATE <sub>mix</sub> > 4.6 mg/m <sup>3</sup> )
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· Rat, LC<sub>0</sub> &gt; 4.6 mg/m<sup>3</sup> (OECD TG 403)</li> </ul> </li> </ul>
(b) Skin Corrosion/ Irritation	Not classified
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· It was not irritating to the skin of rabbits in tests performed similar to current OECD guidelines.</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>· It is not considered as a primary dermal irritant.(OECD TG 404, GLP)</li> </ul> </li> </ul>
(c) Serious Eye Damage/ Irritation	Not classified
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· It was not irritating to the eyes of rabbits in tests performed similar to current OECD guidelines.</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>· The test material was not an eye irritant.(OECD TG 405, GLP)</li> </ul> </li> </ul>
(d) Respiratory sensitization	Not available
(e) Skin Sensitization	Not classified
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>· Under experimental conditions, carbon black is not considered a contact sensitizer in the LLNA. (OECD TG 429, GLP)</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>· Under the experimental conditions of this study, the test item did not induce delayed contact hypersensitivity in the murine Local Lymph Node Assay. (OECD TG 429, GLP)</li> </ul> </li> </ul>
(f) Carcinogenicity	<p>Not classified</p> <p>* Although there is no data on carcinogenicity of the product, the possibility of direct exposure of workers to the powder during storage and handling is low because carbon black in the product is a chip-type masterbatch that has been mixed in a substrate and subjected to a compression process. Therefore, the classification of carcinogenicity is not applied.</p>
	<ul style="list-style-type: none"> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>· IARC, NTP, OSHA, ACGIH, EU CLP 1272/2008: not listed</li> </ul> </li> </ul>

	<p>- Carbon black :</p> <ul style="list-style-type: none"> <li>· IARC: Group 2B (Possibly carcinogenic to humans)</li> <li>· OSHA : applicable</li> <li>· ACGIH: A3 (Confirmed animal carcinogen with unknown relevance to humans)</li> <li>· 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.</li> </ul> <p>* 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.</p> <p>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.</p> <p>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide :</p> <ul style="list-style-type: none"> <li>· IARC, NTP, OSHA, ACGIH, EU CLP 1272/2008: not listed</li> </ul>
(g) Germ cell mutagenicity	<p>Not classified</p> <p>- Carbon black :</p> <ul style="list-style-type: none"> <li>· <i>In vitro</i>: Bacterial Reverse Mutation Assay : negative</li> <li>· <i>In vitro</i>: mouse lymphoma assay : negative</li> <li>· <i>In vitro</i>: sister chromatid exchanges assay : negative</li> <li>· It may be concluded that the available evidence strongly suggests that it is not directly mutagenic.</li> </ul> <p>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide :</p> <ul style="list-style-type: none"> <li>· <i>In vitro</i>: Gene mutation study in bacteria: Metabolic activation: with and without; negative (OECD TG 471, GLP)</li> <li>· <i>In vitro</i>: Mammalian Chromosome Aberration Test: Metabolic activation: with and without; negative (OECD TG 473, GLP)</li> <li>· <i>In vitro</i>: Gene mutation study in mammalian cells: Metabolic activation: with and without; negative (OECD TG 476, GLP)</li> <li>· <i>In vivo</i>: Not available</li> </ul>
(h) Reproductive toxicity	<p>Not classified</p> <p>- Carbon black :</p> <ul style="list-style-type: none"> <li>· 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.</li> </ul> <p>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide :</p> <ul style="list-style-type: none"> <li>· The NOAEL for the systemic toxicity in the parental generation is considered to be 300 mg/kg bw/day, based on decreased body weight gain and food consumption in males and females and microscopic changes in kidneys of females observed at 1,000 mg/kg bw/day. The</li> </ul>

	<p>NOAEL for the fertility was 1,000 mg/kg bw/day in males and 300 mg/kg bw/day in females) The NOAEL for the foetal development was 100 mg/kg body weight/day based a lower body weight gain at 300 and 1,000 mg/kg bw/day. (OECD TG 422, GLP)</p> <ul style="list-style-type: none"> <li>Based on the outcome of this study, the treatment with Luperox F did not cause any adverse effect on maternal and foetal organisms, therefore the NOAEL (No Observed Adverse Effect Level) for maternal and developmental toxicity was higher than 200 mg/kg/day for orally administered Luperox F to rabbits. No teratogenic potential was noted up to the dose level of 200 mg/kg/day, the highest dose level tested within this study. (OECD TG 414, GLP)</li> </ul>
(i) Specific target organ toxicity (single exposure)	<p>Not classified</p> <p>- Carbon black :</p> <ul style="list-style-type: none"> <li>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<sup>3</sup>), whilst low surface area carbon black (200 nm primary particle size; 1 mg/m<sup>3</sup>) had no effect.</li> </ul> <p>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide :</p> <ul style="list-style-type: none"> <li>In acute oral/and dermal study, clinical signs of toxicity were not observed.</li> </ul>
(j) Specific target organ toxicity (repeat exposure)	<p>Not classified</p> <p>* Although there is no data on carcinogenicity of the product, the possibility of direct exposure of workers to the powder during storage and handling is low because carbon black in the product is a chip-type masterbatch that has been mixed in a substrate and subjected to a compression process. Therefore, the classification of specific target organ toxicity (repeat exposure) is not applied.</p> <p>- Carbon black :</p> <ul style="list-style-type: none"> <li>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/m<sup>3</sup> (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<sup>3</sup> (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<sup>3</sup>, moderate clearance in the mid-exposure group (7.1 mg/m<sup>3</sup>) and very little at 52.8 mg/m<sup>3</sup>. Severe lung damage (including lung tumours) was seen in rats of both sexes exposed for 2 years to 2.5 mg/m<sup>3</sup> (16 hrs/day, 5 days/week).</li> </ul> <p>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide :</p> <ul style="list-style-type: none"> <li>The NOAEL is considered to be 300 mg/kg bw/day, based on decreased body weight gain and food consumption in males and females and microscopic changes in kidneys of females observed at 1,000 mg/kg bw/day. The NOEL is considered to be 100 mg/kg bw/day based on kidney multifocal tubular degeneration / regeneration and increase in kidney/body weight ratio in males at 300 mg/kg. This NOEL is considered as secure, since effects on male kidneys are related to a species specific alpha 2-μglobuline accumulation as demonstrated in a subsequent 90-day oral study. (OECD TG 422, GLP)</li> </ul>



(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 <sub>mix</sub> > 964 mg/L)
	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>• Fish: 96h-LC<sub>50</sub> (<i>Tribolodon hakonensis</i>) &gt; 1,000 mg/L</li> <li>• Invertebrate: 24h-EC<sub>50</sub> (<i>Daphnia magna</i>) &gt; 5,600 mg/L (OECD TG 202)</li> <li>• Algae: 72h-ErC<sub>50</sub> (<i>Scenedesmus</i>) &gt; 10,000 mg/L</li> <li>* Acute toxicities were not reported at levels up to the water solubility due to being insoluble in water.</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>• Fish: 96h-LC<sub>50</sub> (<i>Pimephales promelas</i>)=750 mg/L (semi-static, freshwater) (OECD TG 203, GLP)</li> <li>• Invertebrate: 48h-NOELR (<i>Daphnia magna</i>) &gt; 0.022 mg/L (static, freshwater) (OECD TG 202, GLP); No immobilisation or adverse effects on the <i>Daphnia</i> were noted.</li> <li>• Algae: 72h-ErC<sub>50</sub> (<i>Pseudokirchneriella subcapitata</i>) &gt; 1.0 mg/L (static, freshwater) (OECD TG 201, GLP)</li> <li>72h-NOELrR(<i>Pseudokirchneriella subcapitata</i>) &gt; 1 mg/L (static, freshwater) (OECD TG 201, GLP)</li> <li>* Acute toxicities were not reported at levels up to the water solubility due to being insoluble in water.</li> </ul> </li> </ul>
Chronic toxicity	Not classified
	<ul style="list-style-type: none"> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : Category 4</li> <li>• Algae: 72h-NOELrR(<i>Pseudokirchneriella subcapitata</i>) &gt; 1 mg/L (static, freshwater) (OECD TG 201, GLP)</li> <li>* Chronic toxicity was not reported at levels up to the water solubility due to being insoluble in water.</li> </ul>
12.2 Persistence and degradability	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>• It is not biodegradable by micro-organisms.</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>• Extrapolated values at 25°C (using the Arrhenius equation): half-life = 56.4 d (pH 4), 74.7 d (pH 7), 96.5 d (pH 9) (OECD TG 111 &amp; EPA OPPTS 835.2110, GLP)</li> <li>• 0% biodegradation was observed after 28 days; not readily biodegradable) (OECD TG 301D, GLP)</li> </ul> </li> </ul>
12.3 Bioaccumulative potential	<ul style="list-style-type: none"> <li>- Carbon black : <ul style="list-style-type: none"> <li>• Based on its insolubility in organic solvents, and in water, a relevant bioaccumulation of carbon black is not expected.</li> </ul> </li> <li>- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide] : <ul style="list-style-type: none"> <li>• log K<sub>ow</sub> = 7.3 (20 °C, pH:&gt; 5 - &lt; 9) (OECD TG 107, GLP)</li> <li>• BCF = 536 kg/day (GLP)</li> </ul> </li> </ul>

12.4 Mobility in soil	- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide : · K <sub>oc</sub> = 1,259-63,096
12.5 Results of PBT and vPvB assessment	- [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) 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

### < Ethylene Butyl Acrylate >

#### 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

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#### 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:** Regulated

### < [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide >

#### 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:** Regulated

## Foreign Inventory Status

### < Ethylene Butyl Acrylate >

- 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
- 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

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- Korea management information: Existing Chemical Substance (KE-04682)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present (ACTIVE)
- European Inventory of Existing Commercial Chemical Substances(EINECS): Present (215-609-9)
- Canada management information: Domestic Substances List (DSL): Present
- Australia management information: Inventory of Industrial Chemicals (AIIC): Present
- 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)
- New Zealand management information: Inventory of Chemicals (NZIoC): Present [HSNO Approval:  
HSR002801]
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present
- Taiwan management information: Taiwan Chemical Substance Inventory (TCSI): Present

- < [1,3(or 1,4)-Phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) peroxide >
- Korea management information: Existing Chemical Substance (KE-28332)
  - U.S.A management information: Section 8(b) Inventory (TSCA): Present (ACTIVE)
  - European Inventory of Existing Commercial Chemical Substances(EINECS): Present (246-678-3)
  - Canada management information: Domestic Substances List (DSL): Present
  - Australia management information: Inventory of Industrial Chemicals (AIIC): Present
  - China management information: Inventory of Existing Chemical Substances (IECSC): Present (11007)
  - Japan management information: Existing and New Chemical Substances (ENCS): Present ((3)-1067)
  - New Zealand management information: Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard.
  - 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: September 23, 2022

Version: 2

Revision date: January 5, 2024

### 16.2 Key literature reference and sources for data:

TSCA; [http://iaspub.epa.gov/sor\\_internet/registry/substreg/searchandretrieve/searchbylist/search.do](http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/searchbylist/search.do)

EU Regulation 1272/2008

TOMES-LOLI; <http://csi.micromedex.com/fraMain.asp?Mnu=0>

RightAnswer-LOLI; <https://www.rightanswerknowledge.com/n0home.asp>

UN Recommendations on the transport of dangerous goods Twenty-second revised edition

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; <http://monographs.iarc.fr>

ECHA CHEM; <http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>

OECD SIDS; <http://webnet.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)

National chemicals information systems; <http://ncis.nier.go.kr>

Management Agency-Korea dangerous material inventory management system;

<http://hazmat.mpss.kfi.or.kr/material.do>

### 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
Not applicable	Not applicable

### 16.4 Abbreviations

EC<sub>50</sub>: median effective concentration

LC<sub>50</sub>: median lethal concentration

LD<sub>50</sub>: 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.