SAFETY DATA SHEET

Date Printed:
Version: 4
Revision date: October 2, 2024
Regulation: In accordance with Commission Regulation (EU) 2020/878

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product identifier
Product name: CTBA-8730BK
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 inner semiconductor layer.

1.2.2 Recommended use
- It is used for inner semiconductor layer.

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 Corporation
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 Corporation
Address: 21F, Hanwha Bldg., Janggyo-dong, Jung-gu, Seoul, Korea
Prepared by: PO Tech Center, W&C Sales Team
Contact Telephone: +82-2-729-5315, Fax : +82-2-729-3000

1.4 Emergency telephone number
Emergency Telephone: +82-2-729-1172

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: Not classified

Environmental Hazards: Not classified

2.2 Label elements
- **Hazard pictograms:** Not classified
- **Signal word:** Not applicable
- **Hazard statement:** Not applicable
- **Precautionary statements :** Not applicable

2.3 Other hazards

- This mixture is not carried out to assess PBT and vPvB according to EU REACH 1907/2006. There is no any ingredient classified as PBT and vPvB.
- **Additional precautionary statements:** Not applicable
- **National Fire Protection Association (NFPA):**
  Health: 0
  Flammability: Not applicable
  Reactivity: Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	EC No.	Conc. / %	Classification according to 1272/2008/ EC	SCL/ M-factor/ ATE	Registration No.
Acetic acid ethenyl ester, polymer with ethene	24937-78-8	429-840-1	40-60	Not classified	ATE(oral) >2,000 mg/kg bw	01-2119462827-27-0116 01-2119471301-50-0017
Carbon black	1333-86-4	215-609-9	30-50	Not classified	ATE(oral) >8,000 mg/kg bw	01-2119384822-32-0000
[1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide	25155-25-3	246-678-3	< 3	Not classified	ATE(oral) >2,000 mg/kg bw ATE(dermal) > 2,000 mg/kg bw	Not registered

* Under EU REACH regulation, monomers in polymer is 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:
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.

4.1.5 Following ingestion:
Do not let him/her eat anything, if unconscious.
Call emergency medical service.

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 delay Acute effects:

- Symptoms and effects: None known.

4.3 Indication of immediate medical attention and notes for physician

- 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 sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO_2
- 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.

6. ACCIDENTAL RELEASE MEASURES

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 The methods of purification and removal

- 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Storing plastic dust that has undergone polymerization process or during abnormal operation, there is a high risk of ignition, so it is necessary to monitor the temperature inside the dust during the process. In case of abnormal operation, completely remove dust or manage ignition sources.
- Although plastic dust has a large average particle size, the proportion of fine dust with a particle size of several μm is very high and the specific gravity is small, so it is easy to generate suspended dust in the air. Also, be careful about the risk of ignition or explosion because the ignition energy is small.
- The lower explosive limit concentration of plastic dust is 50g/m^3 or less, so the possibility of fire and explosion is high, so manage the dust concentration when handling or using dust.
- 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:

- OSHA : TWA 3.5 mg/m^3 (Final PELs), TWA 3.5 mg/m^3 (Vacated PELs)
- NIOSH : TWA 3.5 mg/m^3; TWA 0.1 mg/m^3 (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH), IDLH 1,750 mg/m^3

o ACGIH: TWA 3 mg/m^3 (inhalation particulate matter)

o Biological exposure index: Not available

o Others:

- Korea : TWA 3.5 mg/m^3 (inhalable fraction)
- Australia : TWA 3 mg/m^3
- China : TWA 4 mg/m^3 (total dust)

o DNELs, PNECs:

Exposure route of relevance	**DNELs, DMELs, PNECs**							
	Workers				General population			
	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)	Not available				Not available	No hazard identified	Not available	No hazard identified
Human: inhalation (mg/m^3)	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	no hazard identified
Human: dermal (mg/kg bw/day)*	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	no hazard identified
Environment: water	No hazard identified							
Environment: air	No hazard identified							
Environment: soil	No hazard identified							
Environment: sediment	No hazard identified							
Environment: STP	No hazard identified							
Environment: Predators	No potential for bioaccumulation							

<1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) 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**							
	Workers				General population			
	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)	Not available				Not available	1 mg/kg bw/day	Not available	No hazard identified
Human: inhalation (mg/m^3)	Hazard unknown but no further hazard information necessary as no exposure expected	19.7 mg/m^3	Hazard unknown but no further hazard information necessary as no exposure expected	Hazard unknown but no further hazard information necessary as no exposure expected	Hazard unknown but no further hazard information necessary as no exposure expected	3.47 mg/m^3	Hazard unknown but no further hazard information necessary as no exposure expected	Hazard unknown but no further hazard information necessary as no exposure expected
Human: dermal (mg/kg bw/day)*	Hazard unknown but no further hazard information necessary as no exposure expected	28 mg/kg bw/day	No hazard identified	No hazard identified	hazard unknown but no further hazard information necessary as no exposure expected	10 mg/kg bw/day	No hazard identified	No hazard identified
Environment: water	No hazard identified							
Environment: air	No hazard identified							
Environment: soil	No exposure of soil expected							
Environment: sediment	8.9 mg/kg sediment dw (freshwater; 0.892 mg/kg sediment dw (marine water)							
Environment: STP	100 mg/L							
Environment: Predators	44.4 mg/kg food							

8.2 Exposure controls

Appropriate engineering controls:

- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection mea3sures, 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	
Description:	Solid (Pellet)
Color:	Black
Odor:	Not available
Odor threshold:	Not available
pH:	Not available
Melting point/freezing point:	90 - 110 ℃
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
Vapor pressure:	Not available
Vapor density:	Not applicable
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
Explosive properties:	Not available
Oxidizing properties:	Not available
Molecular weight:	Not available (mixture)
Specific gravity:	1.14±0.05 (23 ℃)
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
- 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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
(a) Acute toxicity	
Oral	Not classified (ATE_{mix} > 3,089 mg/kg bw)
	- Acetic acid ethenyl ester, polymer with ethane : · LD_{50} (species : no data, male/female) > 2,000 mg/kg bw - Carbon black : · LD_{50} (rat) > 8,000 mg/kg bw - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · LD_{50} (rat, male/female) > 2,000 mg/kg bw (OECD TG 401, 423, GLP)
Dermal	Not classified (ATE_{mix} > 2,000 mg/kg bw)
	- [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · LD_0 (rat, male/female) > 2,000 mg/kg bw, no deaths (OECD TG 402, GLP)
Inhalation	Not available
(b) Skin Corrosion/ Irritation	Not classified
	- Carbon black: · It was not irritating to the skin of rabbits. (OECD TG 404) - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Under the experimental conditions, the substance was considered as non-irritant when applied topically in rabbits. (OECD TG 404, GLP)
(c) Serious Eye Damage/ Irritation	Not classified
	- Carbon black: · It was not irritating to the eyes of rabbits. (OECD TG 405) - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · The test material was not an eye irritant when administered by ocular route to rabbits. (OECD TG 405, GLP)
(d) Respiratory sensitization	Not available
(e) Skin Sensitization	Not classified
	- [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Under the experimental conditions of this study, the test item did not induce delayed contact hypersensitivity on the skin of mice (female) in the murine Local Lymph Node Assay. (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.
	- Acetic acid ethenyl 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) · Based on available data demonstrating a low bioavailability, the polycyclic aromatic hydrocarbons (PAHs) contained in carbon black are generally considered not play a role in lung cancer of laboratory rats. 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 tumors in rats to human health is uncertain, but it appears that the rat is the most sensitive species to the effects of lung overload. Currently, the possibility of lung tumor induction in humans cannot be ruled out on a theoretical basis, but epidemiological evidence does not suggest such a causality. In relation to lung cancer, various cohort and case-control studies in the US did not show any increases in lung cancer risk in carbon black production workers. Cohort mortality studies of workers exposed to carbon black in the UK found an excess of lung cancer in some, but not all factories included in the study, and there was no association between duration of carbon black exposure and lung cancer mortality, nor were possible confounders such as smoking or past occupational histories taken into account. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · IARC, NTP, OSHA, ACGIH, EU CLP 1272/2008: not listed
(g) Mutagenicity	Not classified
	- Carbon black : · *In vitro*: Gene mutation study in bacteria & Sister Chromatid Exchange Assay in Mammalian Cells; negative · Carbon Black is not directly mutagenic. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · *In vitro*: Gene mutation study in bacteria; negative (OECD TG 471, GLP) · *In vitro*: Mammalian Cell Gene Mutation Test: Metabolic activation: with and without; negative (OECD TG 476, GLP)
(h) Reproductive toxicity	Not classified
	- 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. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · 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 NOAEL for the fertility was 1000 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) · 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. (read across : 2215-81-9, 2781-00-2) (OECD TG 414, GLP)
(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 broncho alveolar 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. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Acute toxicity data with rats were available for the oral and dermal routes for DIPP. Clinical signs of toxicity were not observed.
(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/m^3 (NOAEL) 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. 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). - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · 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 1000 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. (OECD TG 422, 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} = 12,500 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 * No toxicity effects observed within the limit of water solubility. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Fish: 96h-LC_{50} (*Pimephales promelas*) = 750 mg/L (semi-static, freshwater) (OECD TG 203, GLP) · Invertebrate: 48h-EC_{50} (*Daphnia magna*) > 1.0 mg/L (static, freshwater) (OECD TG 202, GLP) · Algae: 72h-ErC_{50} (*Pseudokirchneriella subcapitata*) > 1.0 mg/L (static, freshwater) (OECD TG 201, GLP) * No toxicity effects observed within the limit of water solubility.
Chronic toxicity	Not classified
	- [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Fish: Not available · Invertebrate: Not available · Algae: 72h-NOELrR (*Pseudokirchneriella subcapitata*) > 1 mg/L (static, freshwater) (OECD TG 201, GLP)
12.2 Persistence and degradability	- Carbon black : · No biodegradation observed. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · Hydrolysis half-life : 56.4d, 74.7d, and 96.5d (respectively pH 4, pH 7, and pH 9) · 0% degradation after 28d; not readily biodegradable (OECD TG 301D, GLP)
12.3 Bioaccumulative potential	- Carbon black : · It is insoluble in organic solvents and water, so not expected to bioaccumulation. - [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · log K_{ow} = 7.3 (20 °C; pH: >5-<9) (OECD TG 107, GLP) · BCF = 536 kg/day (GLP)
12.4 Mobility in soil	- [1,3(or 1,4)-Phenylenebis (1-methylethylidene)] bis[(1,1-dimethylethyl) peroxide : · K_{oc} = 1,259-63,096 (OECD TG 121, GLP)
12.5 Results of PBT and vPvB assessment	- Acetic acid ethenyl ester, polymer with ethane : The substance is not PBT/vPvB. - Carbon black : The substance is not PBT/vPvB. - [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 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for mixture

<Acetic acid ethenyl 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
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: Not regulated

Foreign Inventory Status

<Acetic acid ethenyl ester, polymer with ethane>

- Korea management information: Existing Chemical Substance (KE-00037)
- 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 (39322)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((6)-6)
- 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

<[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)
- 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 (11007)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((3)-1067)
- 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: Sep. 27, 2018
Version: 4
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
TOMES-LOLI; http://csi.micromedex.com/fraMain.asp?Mnu=0
UN Recommendations on the transport of dangerous goods 17th
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
[Research report] A study on the prevention of fire and explosion of plastic dust (Occupational Safety and Health Agency, 2014)

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 classified	Not applicable

16.4 Abbreviations

EC50: median effective concentration
LC50: median lethal concentration
LD50: 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.