

SAFETY DATA SHEET

Date Printed: January 5, 2024

Version: 1

Revision date: January 5, 2024

Regulation: In accordance with Commission Regulation (EU) CLP 1272/2008

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product identifier

Product name: CLBA-8450BK

EC No .: -

REACH Registration No.: -

CAS No.: -

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

1.2.1. Identified Uses

- It is used for coating of cable.

1.2.2. Recommended use

- It is used for coating of cable.

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: W&C Sales Team

Contact Telephone: +82-2-729-2689, Fax: 02-729-2563, e-mail: 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: Not classified

Environmental Hazards: Not classified

2.2 Label elements

Hazard pictograms: Not applicable **Signal word:** Not applicable



Hazard statement: Not applicable

Precautionary statements
- Precaution: Not applicable
- Treatment: Not applicable
- Storage: Not applicable
- Disposal: Not applicable

2.3 Other hazards

- Additional precautionary statements: Not applicable

- National Fire Protection Association(NFPA)

Health: 0

Flammability: Not available Reactivity: Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	EC No.	Conc. / %	Classification according to 1272/2008/EEC	Registration No.
Polyethylene	25087-34-7	607-541-7	93-98	Not classified	01-2119462827-27-0000
Carbon black	1333-86-4	215-609-9	Confident ial	Not classified	01-2119384822-32-0000
Zinc Sterate	557-05-1	209-151-9	<0.1	Not classified	01-2119513214-54-0058

^{*}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

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

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.



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 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 extinguisher: Dry chemical, carbon dioxide, water, regular foam

- Unsuitable extinguisher: Not available

5.2 Special hazards arising from the substance or mixture

- Thermal decomposition products: Halogenated compounds, carbon oxides, hydrogen chloride,
- May be ignited by heat, sparks or flames.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.
- Fire may produce irritating 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.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Eliminate all ignition sources.
- Stop leak if you can do it without risk.
- Ventilate the area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.

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.

7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limits

<Polyethylene>

o EU regulation:

- Bulgaria: TWA=10mg/m³ (dust)

- Czech Republic: TWA= 5mg/m3 (dust)

- Latvia: TWA= 5mg/m³ (dust, listed under Polymers dust)

o U.S regulation:

NIOSH: Not availableOSHA: Not availableACGIH: Not available

o Biological exposure index: Not available

o Others:

- Slovak Republic: TWA= 5mg/m³ (total solid aerosol)

- China: TWA= 5mg/m³ (total dust), STEL=10mg/m³ (total dust)

o DNELs, PNECs: Not available

<Carbon black>

o EU regulation:

Belgium: TWA= 3.5mg/m³
 Denmark: TWA=3.5mg/m³
 Finland: TWA= 3.5mg/m³

o U.S regulation:

- NIOSH: TWA=3.5 mg/m³; 0.1 mg/m³ (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)

- OSHA: TWA=3.5 mg/m³

o ACGIH: TWA = 3 mg/m³ (inhalable particulate matter)

o Biological exposure index: Not available

o Others:

- Slovak Republic: TWA=2mg/m³ (respirable fraction, 5% or less fibrogenic component); TWA=10mg/m³ (respirable fraction, greater than 5% fibrogenic component); TWA=10mg/m³ (total aerosol)
- Malaysia: TWA=3.5mg/m³
- China: TWA=4mg/m³ (total dust), STEL= 8mg/m³ (total dust)

o DNELs, PNECs:

Exposure	DNELs,	, DMELs,	PNECs									
route of relevance		Indu	strial			Profes	ssional			Cons	umer	
	Long term, Local effects	Long term, systmi ceffect s	Short term, local effects	Short term, system ic effect	Long term, Local effects	Long term, system iceffec ts	Short term, local effects	Short term, system ic effect	Long term, Local effects	Long term, system iceffec ts	Short term, local effects	Short term, system ic effect
Human: oral (mg/kg bw/day)	-	-	-	-	-	-	-	-	-		-	-

Human: inhalation (mg/m³)	2	1	-	-	-	-	-	-	1.75	0.06	-	-
Human: dermal (mg/kg bw/day)	-	-	-	-	-	-	-	-	-	-	-	-
Environment : water	5-50 r	mg/L (Fre	shwater),	5 mg/L (N	/larine wa	ter)						
Environment : air	-	-										
Environment : soil	-	-										
Environment : sediment	-											
Environment : STP	-	-										
Environment : Predators	-											

<Zinc stearate>

o EU regulation:

- Finland: TWA= 10mg/m³

- France: TWA= 10mg/m³[VME]

- United kingdom: TWA=10 mg/m³ (inhalable dust); 4 mg/m³ (respirable dust)

STEL=20 mg/m³ (inhalable dust); 12 mg/m³ (calculated, respirable dust)

o U.S regulation:

- NIOSH: TWA=10 mg/m³ (total dust); 5 mg/m³ (respirable dust)

- OSHA: TWA=10 mg/m³ (total dust); 5 mg/m³ (respirable fraction)

o ACGIH: Not available

o Biological exposure index: Not available

o Others:

- Vietnam: TWA=10mg/m³ (inhalable dust), 5mg/m³ (respirable dust); STEL=20mg/m³ (inhalable dust)
- South Africa: TWA=10mg/m³ (total inhalable dust), 5mg/m³ (respirable dust);

STEL=20mg/m³ (total inhalable dust, respirable dust)

- Kenya: TWA=10mg/m³ (total inhalable dust), 5mg/m³ (respirable dust); STEL= 20mg/m³ (total, inhalable dust)

o DNELs, PNECs:

Exposure	DNELs,	DMELs,	PNECs									
route of relevance		Indu	strial		Professional			Consumer				
	Long term, Local effects	Long term, systmi ceffect s	Short term, local effects	Short term, system ic effect	Long term, Local effects	Long term, system iceffec ts	Short term, local effects	Short term, system ic effect	Long term, Local effects	Long term, system iceffec ts	Short term, local effects	Short term, system ic effect
Human: oral (mg/kg bw/day)	-	-	-	-	-	-	-	-	-	6.25	-	-
Human: inhalation (mg/m³)		44.08	-	-	-	-	-	-	-	10.87	-	-
Human: dermal	-	25	-	-	-	-	-	-	-	12.5	-	-

(mg/kg bw/day)						
Environment : water	8.26 μg/L (Freshwater), 826 ng/L (Marine water), 4.13 μg/L (Intermittent releases)					
Environment : air	-					
Environment : soil	7.812 mg/kg soil dw					
Environment : sediment	16.473 mg/kg sediment dw (freshwater), 16.473 mg/kg sediment dw (marine water)					
Environment : STP	520 μg/L					
Environment : Predators	-					

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 facepiece with goggles to protect.
- An eye wash unit and safety shower station should be available nearby work place.
- 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 chemical resistant gloves.
- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

Body protection:

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Description: Solid, Pellet Black Color: Odor: Odorless Odor threshold: Not available Not available pH: Melting point/freezing point: 100~130°C Initial boiling point and boiling range: Not available Not available Flash point: **Evaporation rate:** Not available Flammability (solid, gas): Not available Upper/lower flammability or explosive limits : Not available



Vapor pressure: Not available Vapor density: Not available Relative density: 0.920-0.945 Solubility(ies): Not available Partition coefficient: n-octanol/water: Not available Not available Auto-ignition temperature : **Decomposition temperature:** Not available Viscosity: Not available **Explosive properties:** Not available Oxidizing properties: Not available Molecular weight: Not available

10. STABILITY AND REACTIVITY

10.1 Reactivity/Chemical stability/Possibility of hazardous reactions

- Stable under normal conditions.
- No dangerous reaction under conditions of normal use.
- Fire may produce irritating and/or toxic gases.
- If inhaled, may be harmful.

10.2 Conditions to avoid

- Heat, sparks or flames

10.3 Incompatible materials

- Strong oxidizing agent

10.4 Hazardous decomposition products:

- Halogenated compounds, carbon oxides, hydrogen chloride

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects					
(a) Acute toxicity					
	Not classified (ATE _{mix} >5,000mg/kg bw)				
Oral	- Polyethylene: Rat, LD ₅₀ > 2,000 mg/kg - Carbon black: Rat, LD ₅₀ > 8,000 mg/kg - Zinc Stearate: Rat(female), LD ₅₀ =5,000mg/kg bw, no death(OECD TG 423, GLP)				
Dermal	Not classified(ATE _{mix} >2,000mg/kg bw)				
Berman	- Zinc Stearate: Rabbit, LD ₅₀ >2,000mg/kg bw				
Inholation	Not classified(ATE _{mix} >50mg/L)				
Inhalation	- Zinc Stearate: Rat, LC ₅₀ (4h)>50 mg/L				
	Not classified				
(b) Skin Corrosion/ Irritation	- Polyethylene: In test on skin irritation with rabbits, mild skin irritations were observed.				



	(irritating index: 0.2) - Carbon black: In test on skin irritation with rabbits, skin irritation was not observed. (OECD TG 404) - Zinc Stearate: In test on skin irritation with rabbits, the substance zinc distearate was found to be not irritating
(c) Serious Eye Damage/ Irritation	Polyethylene: At the 24hour observation, one and two treated eyes suffered from moderate and minimal conjunctival irritation, respectively. Polyethylene produced a maximum group mean score of 11.7 and was classified as a mild irritant to the rabbit eye, all treated eyes appeared normal at the 72 hours and 7 day observations. - Carbon black: In test on eye irritation with rabbits, eye irritations were not observed. (OECD TG 405) - Zinc Stearate: When zinc distearate (100%) was applied into the un-rinsed eyes of 6 rabbits in two tests according to Draize, no irritation was observed.
(d) Respiratory sensitization	Not classified - Carbon black: In test on respiratory sensitization with mouse, respiratory sensitization was not observed.
(e) Skin Sensitization	Polyethylene: In skin sensitization test with guinea pigs, skin sensitizations were not observed Carbon black: In skin sensitization test with guinea pigs, skin sensitizations were not observed. (OECD TG 406, GLP) - Zinc Stearate: The Substance Zinc Stearate was found to be not sensitizing when two eyeshadow formulation containing 10 % zinc stearate was applied twice a day for 28 days to 52 female panelists.
(f) Carcinogenicity	Polyethylene: IARC: Group 3(Not classifiable as to its carcinogenicity to humans) Carbon black: IARC: Group 2B(Possibly carcinogenic to humans) ACGIH: A3(Confirmed animal carcinogen with unknown relevance to humans)
(g) Mutagenicity	Not classified - Polyethylene: - In vitro: Reverse mutation test (S. typhimurium) with and without metabolic activation: Negative - In vivo: Not available



	- Carbon black: • In vitro: Bacterial reverse mutation assay, ambiguous without metabolic activation/negative with metabolic activation (OECD TG 471, GLP) • In vivo: Sex-linked Recessive Lethal Test in Drosophila melanogaster) (OECD TG 477): negative			
	Not classified			
(h) Reproductive toxicity	- Zinc Stearate: In one-generation study with rabbit, under the conditions of the test administration of up to 60 mg/kg bw of unspecified zinc sulphate had no adverse effects on adult rabbits and their foetuses. (NOAELP=60 mg/kg bw/day)(read-across CAS No. 7733-02-0)			
	Not classified			
(i) Specific target organ toxicity (single exposure)	- Zinc Stearate: Zinc stearate was acutely irritating when injected into the lungs of rats and the peritoneum of guinea pigs. Examination of the lungs revealed severe edema, congestion, and small hemorrhages. Animals that survived demonstrated no abnormality of the lungs after 14 or 259 days.			
	Not classified			
(j) Specific target organ toxicity (repeat exposure)	 Polyethylene: Sub chronic or Pre chronic Exposure/ In a 90-day study, liver changes (fat droplets, cloudy swelling, and increased liver weight) that were considered reversible in all cases. (NOAEC=Rat: 2,700, 540ppm, dog: 2,700ppm) Carbon black:			
	mg/kg/day. In addition, minimal to mild gross pathological and histopathological changes were observed in liver, spleen and intestine. However, the biological significance of these findings are not related to test chemical. (NOAEL=1,000 mg/kg bw/day (nominal))(OECD TG 407, GLP)			
(k) Aspiration Hazard	Not available			

12. ECOLOGICAL INFORMATION

12.1 Toxicity	
	Not classified(ATE _{mix} =10.65mg/L)
Acute toxicity	- Carbon black: · Fish: 96hr LC ₀ (Danio rerio)=1,000mg/L (OECD TG 203, GLP) 96hr LC ₀ (Danio rerio)=10,000mg/L (OECD TG 203, GLP) · Crustacean: 24hr EC ₅₀ (Daphnia magna)>5,600mg/L (OECD TG 202, GLP) 48hr EC ₅₀ (Daphnia magna)=33.08-41.97mg/L 48hr LC ₅₀ (Daphnia magna)=54.55-68.23mg/L · Algae: 72hr EC ₅₀ (Desmodesmus subspicatus)>10,000mg/L

	(OECD TG 201, GLP) - Zinc Stearate: · Fish: 24hr LC ₅₀ (Lepomis macrochirus)≥1.8mg/L · Crustacean: 48hr EC ₅₀ (Ceriodaphnia dubia)=0.413mg/L (read-across CAS No. 7440-66-6)
	Not classified
Chronic toxicity	- Zinc Stearate: · Fish: 30d NOEC(Cottus bairdi)=0.172mg/L(read-across CAS No. 7440-66-6) · Crustacean: 3wk NOEC(Daphnia magna)=0.31mg/L (read-across CAS No. 7646-85-7) · Algae: 10d NOEC(Fucus vesiculosus)=0.1mg/L(growth rate) (read-across CAS No. 7646-85-7)
12.2Persistence and degradability	- Zinc Stearate: Persistence: Low persistency (log Kow is less than 4 estimated) (Log Kow=0.2695)(37°C, pH=5.53)
12.3Bioaccumulative potential	- Zinc Stearate: Bioaccumulation: Bioaccumulation is expected to be low according to the BCF < 500 (BCF = 3.162)
12.4 Mobility in soil	Not available
12.5 Results of PBT and vPvB assessment	The substance is not PBT / vPvB
12.6 Hazardous to the ozone layer	Not classified
12.7 Other adverse effects	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

15. REGULATORY INFORMATION

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

< Polyethylene >

EU Regulatory Information

EU classification EU 1272/2008(CLP)

Classification: Not classified Risk phrases: Not classified Safety phrases: Not classified EU SVHC list: Not regulated

EU Authorization list: Not regulated **EU Restriction list:** Not regulated

Waste Framework Directive 2008/98/EC: Non-hazardous waste

< Carbon black >

EU Regulatory Information

EU classification EU 1272/2008(CLP)

Classification: Not classified Risk phrases: Not classified Safety phrases: Not classified EU SVHC list: Not regulated

EU Authorization list: Not regulated **EU Restriction list:** Not regulated

Waste Framework Directive 2008/98/EC: Non-hazardous waste

Foreign Inventory Status

- < Polyethylene >
- Korea management information: Existing Chemical Substance (KE-28877)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present[XU]
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (05721)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((6)-1)
- Australia management information: Australian Inventory of Chemical Substances (AICS): Present



- Canada management information: Domestic Substances List (DSL): Present
- New Zealand management information: New Zealand 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
- < Carbon black >
- Korea management information: Existing Chemical Substance (KE-04682)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present
- European management information: European Inventory of Existing Commercial chemical Substances (EINECS): Present(215-609-9)
- 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)

- Australia management information: Australian Inventory of Chemical Substances (AICS): Present
- Canada management information: Domestic Substances List (DSL): Present
- New Zealand management information: New Zealand Inventory of Chemicals (NZIoC): HSNO Approval: HSR002801
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present
- < Zinc Stearate >
- Korea management information: Existing Chemical Substance (KE-26418)
- U.S.A management information: Section 8(b) Inventory (TSCA): Present
- European Inventory of Existing Commercial Chemical Substances(EINECS): Present (209-151-9)
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (30048)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((2)-615)
- Canada management information: Domestic Substances List (DSL): Present
- Australia management information: Australia Inventory of Chemical Substances (AICS): Present
- New Zealand management information: New Zealand Inventory of Chemicals (NZIoC): HSNO Approval: HSR003105
- Philippines management information: Inventory of Chemicals and Chemical Substances (PICCS): Present

15.2 Chemical safety assessment: Not available

16. OTHER INFORMATION

Product safety data sheet for prepared in accordance with Regulation (EU) 1272/2008

16.1 Indication of changes:

Preparation date: Feb. 22, 2017

Version: 1

Revision date: January 5, 2024

16.2 Key literature reference and sources for data:

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

NIOSH (The National Institute for Occupational Safety and Health)

ACGIH (American Conference of Governmental Industrial Hygienists)

TOMES-LOLI®; http://www.rightanswerknowledge.com/loginRA.aspo National Emergency

Management Agency-Korea dangerous material inventory management system;

http://www.nema.go.kr/hazmat/main/main.jsp

Waste Control Act enforcement regulation attached [1]

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

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
-	-

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

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.