SAFETY DATA SHEET

Date Printed: January 20, 2020
Version: 2
Regulation: According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

1. Identification

1.1 Product identifier
1.1.1 Product name: HC-17, HC-77
1.1.2 Other means of identification: Ethene, chloro-, homopolymer, chlorinated

1.2 Recommended use of the chemical and restrictions on use
1.2.1 Recommended use: General chemical substance
1.2.2. 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: Ulsan plant, Hanwha Solutions Co, Ltd., 22, Saneop-ro 440beon-gil, Nam-gu, Ulsan, Korea
Prepared by: PVC Production 2 team
Contact Telephone: +82-52-279-5376

1.3.2 Supplier&Distributor
Company name: Hanwha Solutions Co, Ltd.
Address: Hanwha Bldg., Janggyo-dong, Jung-gu, Seoul, Korea
Prepared by: PVC Overseas Sales Team
Contact Telephone: +82-2-729-1456

1.4 Emergency phone number
Emergency phone : : +82-2-729-1456 (Sales) / +82-52-279-5376 (Plant)

2. Hazard(s) identification

2.1 Classification of the substance or mixture
According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

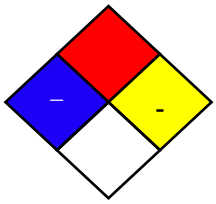
Physical / Chemical Hazards:
Not available

Health Hazards:
Not classified

Environmental Hazards:
Not available

2.2 Label elements, including precautionary statements
- **Pictogram and symbol**: Not applicable
- **Signal word**: Not applicable
- **Hazard statements**: Not applicable
- **Precautionary statements:** Not applicable
- **Treatment statements:** Not applicable
- **Storage statements:** Not applicable
- **Waste statements:** Not applicable

2.3 Other hazard information not included in hazard classification (NFPA)



- **Health:** -
- **Flammability:** -
- **Reactivity:** -
- **Specific hazard:** -

3. Composition/information on ingredients

Component	Common name and synonyms	CAS No.	Conc. / %
Chlorinated vinyl chloride polymer	Chlorinated polyvinyl chloride (CPVC)	68648-82-8	100

4. First-aid measures

4.1 Description of first aid measures

Eye contact

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

Skin contact

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

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.

Ingestion

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

4.2 Most important symptoms and effects, both acute and delayed

- 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:** Use dry sand, dry fire extinguisher, alcohol-resistant foam, water spray, Carbon Dioxide, when fighting fires involving this material.
- **Unsuitable extinguishing media**: High Pressure Water Jet

5.2 Specific hazards arising from the chemical

- May be ignited by heat, sparks or flames.

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

5.3 Special protective equipment and precautions for fire-fighters

- Move containers from fire area if you can do it without risk.
- Some may be transported hot.
- Runoff from fire control may cause pollution.
- Contact with substance may cause severe burns to skin and eyes.
- Dike fire-control water for later disposal; do not scatter the material.

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.
- Powder Spill; Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
- Prevent dust cloud.

6.2 Environmental precautions

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

6.3 Methods and materials 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.

7. Handling and storage

7.1 Precautions for safe handling

- Wash your hands 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.
- Please note that there are materials and conditions to avoid.

8. Exposure controls/personal protection

8.1 Occupational Exposure limits

- **ACGIH regulation**: Not available
- **Biological exposure index**: Not available
- **OSHA regulation**: Not available

- **NIOSH regulation**: Not available
- **EU regulation**: Not available
- **Other**: Not available

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 measures, such as personal protective equipment

Respiratory protection

- Use respirators and components tested and approved under appropriate government standards such as NIOSH

Eye protection

- Wear safety goggles as follow if eye irritation or other disorder occur.
; In case of gaseous state organic material: enclosed safety goggles
; In case of vapour state organic material: safety goggles or breathable safety goggles
; In case of particulate material: breathable safety goggles
- 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.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Description:	Solid
Color:	light color
Odor:	Not available
Odor threshold:	Not available
pH:	Not available
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point:	Not available
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	Not available
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature	Not available
Viscosity:	Not available

"NOTE: The physical data presented above are typical values and should not be construed as a specification"

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.

10.2 Conditions to avoid:

- Keep away from heat/sparks/open flames/hot surfaces.

10.3 Incompatible materials:

- Combustion materials, Irritating, Toxic gases

10.4 Hazardous decomposition products: Not available

11. Toxicological information

Information on toxicological effects	
(a) Acute toxicity	Not available
Oral	Not available
Dermal	Not available
Inhalation	Not available
(b) Skin Corrosion/ Irritation	Not available
(c) Serious Eye Damage/ Irritation	Not available
(d) Respiratory sensitization	Not available
(e) Skin Sensitization	Not available
(f) Carcinogenicity	Not classified
	- IARC, ACGIH, NTP, OSHA, EU CLP 1272/2008: Not listed
(g) Mutagenicity	Not available
(h) Reproductive toxicity	Not available
(i) Specific target organ toxicity (single exposure)	Not available
(j) Specific target organ toxicity (repeat exposure)	Not available
(k) Aspiration Hazard	Not available

12. Ecological information

12.1 Toxicity	Not available
Acute toxicity	Not available
Chronic toxicity	Not available
12.2 Persistence and degradability	Not available
12.3 Bioaccumulative potential	Not available
12.4 Mobility in soil	Not available
12.5 Hazardous to the ozone layer	Not classified
12.6 Other adverse effects	Not available

13. Disposal considerations

13.1 Disposal method

Waste must be disposed of in accordance with federal, state and local environmental control regulation.

13.2 Disposal precaution

Consider the required attentions in accordance with waste treatment management regulation.

14. Transport information

14.1 UN No.: Not applicable

14.2 UN Proper shipping name: Not applicable

14.3 Transport Hazard classes:

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 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not established

14.7 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 the substance or mixture

USA Regulatory Information

TSCA (Toxic Substances Control Act): Section8 (b) inventory(Present) [XU]

Proposition 65: Not regulated

OSHA Regulation: Not regulated

CERCLA Regulation: Not regulated

SARA 302 Regulation: Not regulated

SARA 304 Regulation: Not regulated

SARA 313 Regulation: Not regulated

Foreign Regulatory Information

Substance of Rotterdam] Protocol: Not regulated

Substance of Stockholm Protocol: Not regulated

Substance of Montreal Protocol: Not regulated

Foreign Inventory Status

- Korea management information: Existing Chemical Substance (KE-05652)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((6)-75))
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (24080)
- Australia management information: Australian Inventory 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: Philippine Inventory of Chemicals and Chemical Substances (PICCS): Present

16. Other information, including date of preparation or last revision

16.1 Indication of changes:

Preparation date: July 1, 2016
Version: 2
Revision date: January 20, 2020

16.2 Key literature reference and sources for data:

○ IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; http://monographs.iarc.fr
○ HSDB; http://toxnet.nlm.nih.gov/
○ NIOSH (The National Institute for Occupational Safety and Health)
○ ACGIH (American Conference of Governmental Industrial Hygienists)
○ TOMES-LOLI®; http://www.rightanswerknowledge.com/loginRA.asp○ 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 Abbreviations

ACGIH: American Conference of Governmental Industrial hygienists
NIOSH: The National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
IARC: International Agency for Research on Cancer
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ICAO/IATA: International Civil Aviation Organization/ International Air Transport Association
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

16.4 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.