Material Safety Data Sheet (MSDS)

1. Information about chemicals and companies.

A. Product Name: EVA 1317

B. Recommended uses and restrictions on use

- Recommended use of the product: industrial resin

- Restrictions on the use of the product: Do not use other than the intended use.

C. Manufacturer / Supplier / Distributor Information

- Manufacturer information

1. Company Name: Hanwha Chemical Co., Ltd.

2. Address: Hanwha Chemical Ulsan Plant, 141 Sanggae-ro, Nam-gu, Ulsan, Korea

3. Emergency contact: + 82-52-279-2201, (FAX: + 82-52-279-2204)

4. Department in charge: Ulsan PE Production Team

- Supplier / Distributor Information

1. Company name: Hanwha Chemical

2. Address: Hanwha Chemical Co., Ltd., 86, Cheonggyecheon-ro, Jung-gu, Seoul (Janggyo-dong) 18F, Korea

3. Emergency contact: + 82-2-729-1307, (FAX: + 82-2-729-3000)

4. Department in charge: EVA Sales Team

2. Harmfulness and Risks

A. Product Name: EVA 1317

- Classification of Harmfulness and Risks: Not classified according to Ministry of Employment and Labor Notice No. 2016-19

B. Warning label items including precautionary statements

- Pictogram: Not applicable

- Signal word: Not applicable

- Harmfulness statements: Not applicable

- Precautionary statements: Not applicable

  1. Prevention: Not applicable

  2. Response: Not applicable

  3. Storage: Not applicable

  4. Disposal: Not applicable

C. Other Harmfulness and Risks (NFPA) not included in the Harmfulness and Risks classification criteria

- NFPA: Health:-, Fire:-, Reactivity:-

3. Name and content of ingredients

Chemical name	Common name	CAS No.	Content (%)
Ethylene-vinyl acetic acid copolymer	Ethylene-vinyl acetic acid	24937-78-8	>99.5

4. First aid measures

A. When it got into my eyes

- Immediately wash your eyes with running water for 20 minutes or more upon contact with material.

- Do not rub your eyes.

B. Skin contact

- Immediately wash skin with running water for 20 minutes or more upon contact with material.

- Remove and isolate contaminated clothing and shoes.

- Wash clothes and shoes thoroughly before reuse.

- Get medical attention immediately.

C. When inhaled

- Get urgent medical attention.

- Move to fresh air.

- If not breathing, give artificial respiration.

- Provide oxygen if breathing is difficult.

- Loosen any tight clothes, such as waist belts, collars, and ties.

D. When eaten

- Do not feed anything by mouth to an unconscious person.

- Get medical attention immediately.

- Get medical advice as to whether or not you should cause vomiting.

- Immediately rinse your mouth with water.

E. First aid and doctor's notes

- Make sure that medical personnel are aware of the substance and take protective measures.

5. Fire Fighting Measures

A. Suitable (inappropriate) extinguishing agent

- Suitable extinguishing agents: dry sand, powder extinguishing agent, alcohol-resistant foam, water spray, general foam, carbon dioxide

- Inappropriate extinguishing agent: High pressure water

- For large fires: No data

B. Specific harmfulness arising from chemicals

- Can be ignited by heat, sparks or flames

- Containers may explode when heated

- Some can burn, but do not ignite easily

- In case of fire, it may generate irritating and toxic gases

- Inhalation of material can be harmful

C. Protective equipment and precautions to be taken in case of fire fighting

- Dig and confine ditches to dispose of fire extinguishing water to prevent material from scattering.

- Move containers from fire area if it is not dangerous

6. What to do in case of a leak

A. Measures and protective measures necessary to protect the human body

- Eliminate all ignition sources.

- Stop leak if not dangerous.

- Ventilate the contaminated area.

- Do not touch or walk around the leak.

- Prevent dust formation.

B. Action required to protect the environment

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

C. Method of purification or removal

- Put the spilled material in a clean, dry container with a clean shovel, loosely close it, and move the container from the leaking area.

- In the event of a small leak, wash the contaminated area with plenty of water, absorb it with sand or non-combustible material and put it in a container.

- In case of large spills, make a ditch away from liquid spills.

7. Handling and storage

A. Safe handling tips

- Wash hands thoroughly after handling.

- Work with reference to engineering controls and personal protective equipment.

- Be careful of high temperatures.

B. Safe storage method

- Keep sealed.

- Store in a cool, dry place.

8. Exposure prevention and personal protection

A. Chemical exposure standards, biological exposure standards, etc.

- Domestic regulations: Not applicable

- ACGIH Regulations: Not applicable

- OSHA regulations: Not applicable

- NIOSH regulations: Not applicable

- Biological exposure standards: Not applicable

- EU Regulations: Not applicable

- Others: Not applicable

B. Appropriate engineering controls

- Use process isolation, local exhaust, or keep the air level below the exposure limit.

C. Personal protective equipment

- Respiratory protection

1. Wear a respirator that has been certified by the Korea Occupational Safety and Health Agency for the physical and chemical properties of the particulate matter being exposed.

2. For particulate matter, the following respiratory protection is recommended; Face filtration type dust mask or air filtration type dust mask (high efficiency particulate filter material) or dustproof mask with electric fan (dust, mist, fume filter material)

3. If oxygen is insufficient (<19.5%), wear a breathing mask or self-contained breathing apparatus.

- Eye protection-Use chemical protective glasses and safety glasses.

1. Install emergency washing facilities (shower type) and face-wash facilities in a location easily accessible by workers.

- Hand protection.

1. Wear protective gloves made of chemical resistant materials considering the physical and chemical properties of chemicals.

- Body protection

1. Wear protective clothing made of chemical-resistant materials considering the physical and chemical properties of chemicals.

9. Physical and chemical properties

A. Appearance

- Appearance: Solid
- Color: White or transparent pellets

B. Odor: Sour smell (vinegar smell)

C. Odor threshold: No data

D. pH: No data

E. Melting point / freezing point: 60 ~ 105 ℃

F. Initial boiling point and boiling range: No data available

G. Flash Point: No data available

H. Evaporation rate: Not applicable

I. Flammability:> 270 ℃

J. Upper / lower limit of flammable or explosive range: No data

K. Vapor pressure: Not applicable Solubility: No data

L. Vapor density: No data

M. Specific gravity: 0.920 ~ 0.960 (Water = 1)

N. n-octanol / water distribution coefficient: No data

O. Auto-ignition temperature:> 400 ℃

P. Decomposition temperature: No data

Q. Viscosity: No data

R. Molecular weight: tens to hundreds of thousands of polymers

10. Stability and reactivity

A. Chemical stability and possibility of hazardous reactions

- Stable at normal temperature and pressure
- In case of fire, it may generate irritating and toxic gases
- Inhalation of material can be harmful

B. Conditions to avoid

- Avoid heat, flames, sparks and other sources of ignition.

C. Materials to avoid

- Strong oxidizer, amine

D. Hazardous substances generated during decomposition

- Irritating, toxic gases
- Carbon monoxide, carbon dioxide, acetic acid

11. Toxicological information

A. Health hazard information

○ Acute toxicity

- Oral: No data
- Transdermal: No data
- Inhalation: No data

○ Skin corrosion or irritation: No data

○ Serious eye damage or irritation: No data

○ Respiratory sensitization: No data

○ Skin sensitization: No data

○ Carcinogenicity: No data

○ Mutagenicity: No data

○ Reproductive toxicity: No data available

○ Specific target organ systemic toxicity (single exposure): No data available

○ Specific target organ systemic toxicity (repeated exposure): No data available

○ Aspiration hazard: No data

12. Environmental scent

A. Ecotoxicity

- Acute aquatic toxicity: No data available

- Chronic aquatic toxicity: No data

B. Persistence and degradability

- Persistence: No data

- Degradability: No data

C. Bioaccumulation

- Concentration: No data

- Biodegradability: No data

D. Soil mobility: No data

E. Ozone layer hazard: Not classified

F. Other harmful scents: No data

13. Precautions for disposal

A. Disposal method

- Burn waste synthetic polymer compounds. However, if it is difficult to incinerate, crush, cut or melt the product to a size less than or equal to 15 cm in diameter, and then embed it in a managed landfill facility.

B. Precautions for disposal

- Dispose of contents and containers according to the waste management law.

14. Transport information

A. UN No.: Not applicable

B. Proper shipping name: Not applicable

C. Transport hazard class: Not applicable

D. Container class: Not applicable

E. Marine pollutant: Not applicable

F. Special safety measures that the user needs or needs to know about transportation or transportation

- Emergency measures in case of fire: Not applicable
- Emergency measures in case of leakage: Not applicable

15. Legal Regulations

A. Occupational Safety and Health Act: Not regulated

B. Regulations under the Act on the Registration and Evaluation of Chemical Substances and the Chemical Substance Management Act: Existing Chemical Substances (KE-00037)

C. Dangerous Goods Safety Management Act: Not regulated

D. Waste Management Act: General wastes at business sites

E. Regulation by other domestic and foreign laws:

- Domestic regulations:

1. Persistent organic pollutant management law: Not regulated

- EU classification information

1. EC 1272/2008 (CLP) final classification result: Not classified
2. EC 1272/2008 (CLP) Risk Phrases: Not classified
3. EC 1272/2008 (CLP) safety (precautionary) statement: Not classified
4. EU regulatory information (EU SVHC list): Not regulated
5. EU Authorization list: Not regulated
6. EU Restriction list: Not regulated

- United States Administration Information

1. United States Administration Information (OSHA regulation): Not regulated

2. US management information (CERCLA regulation): Not regulated

3. United States management information (EPCRA 302 regulation): Not regulated

4. United States management information (EPCRA 304 regulation): Not regulated

5. US management information (EPCRA 313 regulation): Not regulated

6. US management information (SARA 311/312 regulation): Not regulated

- International Convention Information

1. Rotterdam Convention Substances: Not regulated

2. Stockholm Convention Substances: Not regulated

3. Montreal Protocol Substances: Not regulated

- Other regulations

1. US Management Information: Section 8 (b) Inventory (TSCA): Existing [XU]

2. Japan Management Information: Inventory-Japan-Existing and New Chemical Substances (ENCS): Existing ((6) -6, (6)- 82)

3. China management information: Inventory of Existing Chemical Substances (IECSC): Present [39322]

4. Canada Management Information: Domestic Substances List (DSL): Exists

5. Australian Management Information: Australian Inventory of Chemical Substances (AICS): Present

6. New Zealand Management Information: New Zealand Inventory of Chemicals (NZIoC): May be used as a component in products included by military standards, but the use of chemicals as such is not approved.

7. Philippine Management Information: Philippine Inventory of Chemicals and Chemical Substances (PICCS): Present

16. Other references

A. Source of data

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

○ NIOSH; NIOSH.cdc.gov/niosh/npg/npgd0018.html

○ ACGIH (American Conference of Governmental Industrial Hygienists)

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

○ EU Regulation 1272/2008

○ UN Recommendations on the transport of dangerous goods 17th

○ Ministry of Public Safety and Security-National Dangerous Goods Information System; http://hazmat.mpss.kfi.or.kr/index.do

○ Chemical Information System (NCIS); http://ncis.nier.go.kr/ncis/

○ Standards for exposure of chemical substances and physical factors (Ministry of Employment and Labor Notice No. 2013-38) ○ Standards for classification and labeling of chemical substances and material safety data (Ministry of Employment and Labor Notice No. 2016-19)

B. Initial Creation Date: May 6, 2016

C. Number of revisions and date of last revision

- Number of revisions: 2nd

- Date of last revision: November 11, 2016

D. Other

○ This MSDS was prepared in accordance with Article 41 of the Industrial Safety and Health Act and Ministry of Employment and Labor Notice No. 2016-19. The content is based on current knowledge and information and based on the latest data we know.

○ Since this MSDS was prepared to help buyers, handlers, or third parties in handling materials safely, it cannot be used for commercial purposes or used in combination with other materials, and cannot be guaranteed for any commercial application or expression. It should be noted that you cannot take responsibility.

○ The contents of this MSDS may differ depending on the country and region, and may not be consistent with the actual regulations, so buyers and handlers are responsible for checking and complying with the government and local regulations.