SAFETY DATA SHEET

Date Printed: March 6, 2018
Version : 3
Revision date: March 6, 2018
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: TP-400M
EC No.: -
REACH Registration No.:-
CAS No.: 28086-69-3

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

1.2.1. Identified Uses
- The main ingredient in paint, adhesive, ink and sealing etc.

1.2.2. Recommended use
- The main ingredient in paint, adhesive, ink and sealing etc.

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 Chemical Co, Ltd.
Address: Ulsan plant, Hanwha Chemical Co, Ltd., 22 Saneop-ro 440-gil, Nam-gu, Ulsan, Korea
Prepared by: ABR Production 1 Team, 2 Team
Contact Telephone: +82-52-279-5314, +82-52-279-5334

1.3.2 Supplier&Distributor
Company name: Hanwha Chemical Co, Ltd.
Address: 18F, Hanwha Building, 86 Chenggyechen-ro, Jung-gu, Seoul, Korea
Prepared by: PVC Sales Team , PSR Sales Team
Contact Telephone: +82-2-729-2773
Email Address: wonik.lee@hanwha.com, hyeju.lee@hanwha.com

1.4. Emergency telephone number

Emergency Telephone: +82-52-279-5314

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 (CLP)

Physical / Chemical Hazards:
Not applicable

Health Hazards:
Not applicable

Environmental Hazards:
Not applicable

2.2 Label elements
Hazard pictograms: Not applicable

Signal word: Not applicable
Hazard statement: Not applicable
Additional precautionary statements: Not applicable
Precautionary statements
- **Precaution**: Not applicable
- **Treatment**: Not applicable
- **Storage**: Not applicable
- **Disposal**: Not applicable

2.3 Other hazards
Health: -
Flammability: -
Reactivity: -

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	EC No.	Conc. / %	Classification according to 1272/2008/EEC	(Pre) Registration No.
Vinyl Chloride-Vinyl acetate-Dicarbonic acid copolymer	28086-69-3	-	100	Not classified	01-2119458772-30-0000 01-2119471301-50-0000 17-2120078502-58-0000

***Under EU REACH regulation, monomers in Vinyl Chloride-Vinyl acetate-Dicarbonic acid copolymer are (pre)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 at least 20 minutes.
Remove and isolate contaminated clothing and shoes.
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.
Preferentially remove the lens when using a contact lens.
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 delay Acute effects :
- Symptoms and effect : 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: Extinguishing powder, CO_2, water, regular form
- Unsuitable extinguishing media: Not available
- Large fires: Use regular foam and water mist.

5.2 Special hazards arising from the substance or mixture

- 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.

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 waterways, 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. And remove sources of ignition.
- 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

- Note that there are materials and conditions to avoid.
- Wash your hands thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.
- Avoid inhalation of particulate matter and gas, etc.

7.2 Conditions for safe storage, including any incompatibilities

- Store in a closed container.
- Store in cool and dry place.
- Avoid contact with light.
- Do not use tobacco or food in the work area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limits

- **o EU regulation:** Not available
- **o U.S regulation:**
  - **-** NIOSH: Not available
  - **-** OSHA: Not available
- **o ACGIH:** Not available
- **o Biological exposure index:** Not available
- **o Others:** Not available
- **o DNELs, PNECs:** Not available

8.2 Exposure controls

Appropriate engineering controls:

- Use process enclosures, local exhaust ventilation

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 face piece with goggles to protect.
- Washing facilities 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.

Hand protection:

- Wear appropriate chemical resistant protective gloves (insulated gloves) by considering physical and chemical properties of chemicals.

Body protection:

- Wear appropriate chemical resistant 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 powder
Color :	Colorless, white
Odor :	Sweet odor
Odor threshold :	Not available
pH :	Not applicable
Melting point/freezing point :	Not available
Initial boiling point and boiling range :	Not available
Flash point :	Not available
Evaporation rate :	Not applicable
Flammability (solid, gas) :	Not available
Upper/lower flammability or explosive limits :	Not available
Vapor pressure :	Not applicable
Vapor density :	Not available
Relative density:	1.35~1.39
Solubility(ies):	Insoluble Solvent solubility: cyclohexanone, methyl cyclohexanone, dimethyl formamide, nitrobenzene, tetrahydrofuran, isophorone, mesityl oxide, dipropylketone, Methyl amylketone, methyl, isobutylketone, dioxane, methylethylketone, dichloromethane, chlorobenzene, dichloroethylene

Partition coefficient: n-octanol/water :	Not available
Auto-ignition temperature :	Not available
Decomposition temperature :	Not available
Viscosity :	Not available
Explosive properties :	Not available
Oxidising properties :	Not available
Molecular weight :	80,000~200,000(the average) g/mol

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.
- Avoid contact with incompatible materials.

10.3 Incompatible materials

- Strong oxidizing agents

10.4 Hazardous decomposition products:

- Acid halogen compounds, halogen compounds, phosgene, vinyl chloride, carbon oxides

11. TOXICOLOGICAL INFORMATION

11.1 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 available
	IARC, NTP, OSHA, EU CLP 1272/2008, US EPA : 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
12.2Persistence and degradability	Not available
12.3Bioaccumulative potential	Not available
12.4 Mobility in soil	Not available
12.5 Results of PBT and vPvB assessment	Not available
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 the substance or mixture
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: Hazardous waste

Foreign Inventory Status
- China management information: Inventory of Existing Chemical Substances (IECSC): Present (38080)
- Japan management information: Existing and New Chemical Substances (ENCS): Present ((6)-99)
- Australia management information: Australian Inventory of Chemical Substances (AICS): Present
- New Zealand management information: New Zealand Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard.
- Taiwan management information: Taiwan Chemical Substances Inventory (TCSI): Present

15.2 Chemical safety assessment :
For this substance a chemical safety assessment has been carried out.

16. OTHER INFORMATION

Product safety data sheet for prepared in accordance with Regulation (EU) 1272/2008
16.1 Indication of changes:
Preparation date: Mar. 25, 2016
Version: 3
Revision date: March 6, 2018

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.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

EC_{50}: median effective concentration
LC_{50}: median lethal concentration
LD_{50}: 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

16.4 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.