

SAFETY DATA SHEET

Date Printed: January 20, 2020

Version: 4

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: TP-400M

1.1.2 Other means of identification: Vinyl chloride-Vinyl acetate-Itaconic acid copolymer

1.2 Recommended use of the chemical and restrictions on use

1.2.1 Recommended use: The main ingredient in paint, adhesive, ink and sealing etc.

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 440-gil, Nam-gu, Ulsan, Korea

Prepared by: PVC Production 1 Team

Contact Telephone: +82-52-279-5314

1.3.2 Supplier&Distributor

Company name: Hanwha Solutions Co, Ltd.

Address: Hanwha Building, 86 Chenggyecheon-ro, Jung-gu, Seoul, Korea

Prepared by: PSR Sales Team

Contact Telephone: +82-2-729-2773

1.4 Emergency phone number

Emergency phone: +82-2-729-2773 (Sales) / +82-52-279-5314 (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 applicable

Health Hazards:

Not applicable

Environmental Hazards:

Not applicable

2.2 Label elements, including precautionary statements

o **Pictogram and symbol:** Not applicable

o **Signal word:** Not applicable

o **Hazard statements:** Not applicable

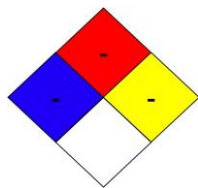
o **Precautionary statements:** Not applicable

- **Prevention:** Not applicable

- **Response:** Not applicable

- **Storage:** Not applicable

- **Disposal:** Not applicable

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


- o Health: -
- o Flammability: -
- o Reactivity: -
- o Specific hazard: -

3. Composition/information on ingredients

Component	Common name and synonyms	CAS No.	Conc. / %
Vinyl Chloride-Vinyl acetate-Dicarboxylic acid copolymer	Butanedioic acid, methylene-, polymer with chloroethene and ethenyl acetate	28086-69-3	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.
- Preferentially remove the lens when using a contact lens.
- 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: Extinguishing powder, CO₂, water, regular foam
- Unsuitable extinguishing media: Not available
- Large fires: Use regular foam and water mist.

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.

5.3 Special protective equipment and precautions for fire-fighters

- 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 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. 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 Occupational Exposure limits

- o **ACGIH regulation:** Not available
- o **OSHA regulation:** Not available
- o **NIOSH regulation:** Not available
- o **Biological exposure index:** Not available
- o **EU regulation:** Not available
- o **Other:** 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 NIOSH or 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 :

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

“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.
- 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	
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, ACGIH, 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
12.2 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 regulations.
- Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.
- Dispose of container and unused contents in accordance with federal, state and local requirements.

13.2 Disposal precaution

- Consider the required attentions in accordance with waste treatment management regulation.
- Do not dump this product into any sewers, on the ground, or into any body of water.
- Dispose of in accordance with all applicable federal, state, and local regulations.

14. Transport information

14.1 UN No.: Not applicable

14.2 UN Proper shipping name: Not applicable

14.3 Transport Hazard classes: 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): Not regulated

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

- 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

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

16.1 Indication of changes:

Preparation: March 25, 2016

Version: 4

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>
- 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.