

## MATERIAL SAFETY DATA SHEET

Date of Issued: Oct. 02, 2019

Revision No: 1.1

Date of Revision: Feb. 11, 2020

1. Chemical Product and Company Identification	
Product Name	Soluryl SHD-852 MEA
Product Family	Polyacrylic-polystyrene solution
Supplier	Hanwha Chemical Thailand Co., Ltd 377 Moo 17 Bangna-Trad Rd., Bangsaotong, Bangsaotong, Samutprakarn, 10540, TEL 66-2-315-3204~7 Jaehong Jeon, <a href="mailto:rometalian@hanwha.com">rometalian@hanwha.com</a>
Emergency Information	Steve Ahn ahnjoonwoo@hanwha.com, TEL 66-2-705-9687

2. Hazards Identification	
Hazard Classification : Not applicable	
Symbol	Not applicable
Signal Word	Not applicable
Hazard Statement	Not applicable
Precautionary Statement	Not applicable
Other hazard classification(NFPA) : Health 1, Flammability 1, Reactivity 0	

3. Composition, Information on Ingredients		
Component	CAS #	wt%
Styrene-Acrylate copolymer	52831-04-6	~35
H <sub>2</sub> O	7732-18-5	~56
Monoethanolamine	141-43-5	~8

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4. First Aid Measures	
Eye	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.
Skin	Immediately wash skin with plenty of soap and water for at least 15 minutes. Get medical attention if irritation develops or persists. Wash contaminated clothing and shoes before reuse.
Ingestion	Give 1~2 glasses of water to drink and get medical attention.
Inhalation	Remove to fresh air. Get medical attention If a cough or other respiratory irritation develop or persists.
Notes to Physician	Not necessary

5. Fire Fighting Measures	
Extinguishing Media	Dry powder, Carbon dioxide, Water spray
Unsuitable Extinguishing Media	High pressure water jet
Decomposition Hazardous Gases	Could be formed corrosive and irritant gases
Fire Fighting Instruction	Respirator, Wear self-contained breathing apparatus

6. Accidental Release Measures	
Personal Precautions	Wear eye, skin and respiratory protection during cleaning
Environmental Precautions	Not necessary
Methods for Clearing	Soak up material with absorbent and sweep into a chemical waste container

7. Handling and Storage	
Handling	Avoid breathing vapors and fumes. Prevent skin and eye contact. Use in a well ventilated area and handling methods that minimize dust production. Avoid contact with eyes, skin and cloth
Storage	Keep containers closed and upright to prevent leakage Store in a cool, well ventilated area away from heat, sources of ignition, direct sunlight. Keep from Children. Keep away freezing

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8. Exposure Controls & Personal Protection	
Exposure Limit	Polymer/Emulsion, Not applicable
Engineering Controls	Provide general clean air dilution or local exhaust ventilation in volume and pattern to prevent air contaminant concentration build-up
Protection	Eye: Wear safety glasses Skin: Wear appropriate protective gloves and apron Respiratory: Avoid breathing vapors and fumes. If exposed to fumes, wear an appropriate, properly fitted respirator

9. Physical & Chemical Properties	
Physical state	Liquid
Color	Yellowish
Odor	Mild
pH	~8.6
Melting Point(°C)	0°C
Boiling Point(°C)	100°C
Flash Point(°C)	Not applicable
Evaporation Rate	Not applicable
Flammability	Not applicable
Explosive Limit	Not applicable
Vapor Pressure	< 1
Vapor Density	Not applicable
Relative Density(g/cc)	0.8 ~ 1.2
Bulk Density(g/cc)	Not applicable
Solubility	Not applicable
Partition Coefficient	Not applicable
Auto-ignition temp(°C)	Not applicable
Decomposition Temp(°C)	Not applicable
Viscosity(cps)	1,500-3,000
Molecular weight	~16,500

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10. Stability & Reactivity	
Chemical Stability	Stable
Possibility of Hazardous Reaction	None under normal conditions
Conditions to avoid	Elevated temperature
Materials to avoid	Strong oxidizing materials, Freezing condition
Hazardous decomposition products	Carbon dioxides, Incomplete combustion can produce carbon monoxide. The material will not support combustion if the water has not evaporated.

11. Toxicological Information	
Information on the likely routes of exposure	None known
Symptoms related to the physical, chemical and toxicological characteristics	None known
Delayed and immediate effects and also chronic effects from short- and long-term exposure	None known
Numerical measures of toxicity	None known

12. Ecological Information	
Ecotoxicity (aquatic and terrestrial, where available)	None known
Persistence and degradability	None known
Bioaccumulative potential	None known
Mobility in soil	None known
Other adverse effects	None known

13. Disposal Information	
Dispose of in accordance with local, state or national regulations. Do not incinerate closed containers. Incinerate in approved facility.	

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14. Transport Information	
UN number	Not Classified
UN Proper shipping name	Not applicable
Transport Hazard class	Not applicable
Packing group, if applicable	Not applicable
Marine pollutant	None Known
Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises	Not applicable

15. Regulatory Information
Safety, health and environmental regulations : Not applicable

16. Other Reference
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- This MSDS has been issued by Hanwha Chemical Thailand Co., Ltd. complied with the Law of industry security and health clause 41. This MSDS has been stipulated through the widely known state of the art data based on current knowledge and information and a part of the information included has been referred to the Korean Occupational Safety & Health Care Agency.
- This MSDS has been issued only to help the purchasers, agencies or the third parties who's needed to handle the material with safety, therefore, there should be no regal and technical responsibility if it applies to the special purpose and using with the other materials, commercial application or expression.
- The purchasers and agencies must have the responsibilities for the observance and compliance of the relevant regulations of each government because the specifications of this MSDS cannot be available in accordance with the provisions of each nation or area.