



MATERIAL SAFETY DATA SHEET

according to Regulation GB15258-2009

Date of print: 2/9/2015

Revision date: 1/26/2015

Date of first version:

1/10/2011

Copolymer of Maleic and Acrylic Acid (MA/AA), aqueous solution

SECTION 1: Chemical Product & Company Information

1.1 Product identifier

Trade name: Copolymer of Maleic and Acrylic Acid (MA/AA)

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

General use Water treatment chemicals

1.3 Details of the supplier of the safety data sheet

Company name: Shandong Taihe Water Treatment Technologies Co.,Ltd.
Street/POB-No.: Zhongtai Chemical Industrial Park, Economic Development Zone of Zaozhuang,
Shandong Province, China
Telephone: +86 (0)632 5113066
Telefax: +86 (0)632 5112055

SECTION 2: Composition

Mixtures

Chemical characterization (preparation)

aqueous solution

Hazardous ingredients:

Ingredient	Chemical name	Content
Main content CAS 26677-99-6	Copolymer of Maleic and Acrylic Acid (MA/AA)	48% min

SECTION 3: Hazards identification

Physical form: Brown transparent liquid
Major health hazards: Respiratory tract burns, mucous membrane burns, skin irritation, eye irritation.
Physical hazards: Dust / air mixtures may ignite or explode

POTENTIAL HEALTH EFFECTS

Inhalation: Short Term Exposure: Burns
Long Term Exposure: Same as effects reported in short term exposure
Skin contact: Short Term Exposure: Irritation, itching
Long Term Exposure: Same as effects reported in short term exposure.
Eye contact: Short Term Exposure: Irritation, itching
Long Term Exposure: Same as effects reported in short term exposure.
Ingestion: Short Term Exposure: Burns

Shandong Taihe Water Treatment Technologies Co., Ltd.



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Long Term Exposure: Same as effects reported in short term exposure

SECTION 4: Hazards identification

4.1 Description of first aid measures

Inhalation:	When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.
Skin Contact:	Remove contaminated clothing, jewelry and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15 – 20 minutes). Get medical attention, if needed.
Eye Contact:	Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately
Swallowed:	Never make an unconscious person vomit or drink fluids. Give water or milk. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available

SECTION 5: Hazards identification

Fire and explosion hazard:	Slight fire hazard. Dust/air mixtures may ignite or explode.
Extinguishing media:	Regular dry chemical, carbon dioxide, water, and regular foam.
Large fires:	Use regular foam or flood with fine water spray.
Fire fighting:	Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Do not get water directly on material.
Large fires:	Flood with fine water spray. Reduce vapors with water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6: Accidental release measures

Occupational spills:	Do not touch spilled material. Stop leak if possible without personal risk.
Small spills:	Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.
Small dry spills:	Move containers away from spill to a safe area.
Large spills:	Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry

SECTION 7: Handling Storage



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Handling:	Do not get into eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.
Storage:	Store in cool, dry, well ventilated area above 0°C. Product is stable under normal conditions of handling and storage. Emptied containers retain vapor and product residue. Observe all recommended safety precautions until container is cleaned, reconditioned, or destroyed. The reuse of this material's container for non-industrial purposes is prohibited and any reuse must be in consideration of the data provided in this material safety data sheet.
Suitable materials of construction:	Glass lining, PVC, polypropylene, glass reinforced plastic, and polyethylene.
Unsuitable materials of construction:	Mild steel, carbon steel, aluminum, and other metals.

SECTION 8: Exposure controls/personal protection

Exposure limits:	No occupational exposure limits established.
Ventilation:	Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.
Respiratory System Protection:	Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any dust, mist and fume respirator. Any air-purifying respirator with a high-efficiency particulate filter. Any powered, air purifying respirator with a dust, mist and fume filter. Any powered, air-purifying respirator with a high-efficiency particulate filter. For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with full face-piece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply any self-contained breathing apparatus with a full face-piece.
Eye protection:	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Protective materials types:	Rubber
Clothing:	Wear appropriate chemical resistant clothing

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	aqueous solution
Colour	brown transparent
Boiling temperature / boiling range	Not available
Flash point / flash point range:	Not available
Density (20°C) :	1.20g/cm ³ min
pH value(1% water solution):	2.0-3.0
Water solubility :	Miscible with water with any



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proportion

SECTION 10: Stability and reactivity

Reactivity:	Stable at normal temperature and pressure.
Condition to Avoid:	Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces. May ignite or explode on contact with combustible materials.
Incompatibility:	Bases, amines, metals, reducing agents, oxidizing materials. Alkalies: Violent reaction. Amines: Incompatible. Metals: May be corrosive in the presence of moisture. Metal salts of sulfides: May release toxic gases. Oxidizers: Fire and explosion hazard. Sulfites: May release toxic gases.
Hazardous Decomposition:	Thermal decomposition products: phosphine, inorganic acids, oxides of phosphorus.
Hazardous Polymerization:	Will not occur.

SECTION 11: Toxicological information

Toxicity data:	1800 mg/kg oral-mouse LD50
Local effects:	Irritant skin, eye corrosive, inhalation ingestion.
Acute toxicity level:	Moderately toxic: ingestion.
Reproductive effects data:	
40 mg/kg intraperitoneal-mouse TDLo 7 day/s pregnant female continuous;	
200 mg/kg intraperitoneal-mouse TDLo 7 day/s pregnant female continuous;	
200 mg/kg intraperitoneal-mouse TDLo 7 day/s pregnant female continuous	
200 mg/kg intraperitoneal-mouse TDLo 8 day/s pregnant female continuous;	
200 mg/kg subcutaneous-mouse TDLo 13 day/s pregnant female continuous;	
1400 mg/kg subcutaneous-mouse TDLo 11-17 day/s pregnant female continuous;	

HEALTH EFFECTS

Inhalation	
Acute Exposure:	Aqueous solutions have been reported to be corrosive to all mucous membranes.
Chronic Exposure:	No data available.
Skin contact	
Acute Exposure:	Aqueous solutions may cause burning and itching.
Chronic Exposure:	Repeated or prolonged exposure to irritants may cause dermatitis.
Eye contact	
Acute Exposure:	Aqueous solutions may cause burning and itching.
Chronic Exposure:	Repeated or prolonged exposure to irritants may cause conjunctivitis.
Ingestion	
Acute Exposure:	Aqueous solutions have been reported to be corrosive to all mucous membranes.
Chronic Exposure:	Administration of 50, 150 or 500 mg/kg/day for 24 months resulted in reduced body weights and changes in liver, spleen and kidney weights or weight ratios in the high dose group. The no-effect level was considered to be 150 mg/kg/day.

SECTION 12: Ecological information



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ENVIRONMENTAL TOXICITY

Invertebrates:	48 h, EC50 Water flea (Daphnia magna) 527 mg/l
Fish:	96 h, LC50 Rainbow trout (Oncorhynchus mykiss) 368 mg/l 96 h, LC50 Bluegill sunfish (Lepomis macrochirus) 868 mg/l
Algae:	96 h, EC50 Algae (Selenastrum capricornutum) 3 mg/l .Algal growth inhibition is due to ability of this product to complex materials not to toxicity perse.

ENVIRONMENTAL FATE

Biodegradation:	Zahn-Wellens Dissolved Organic Carbon removed 33 % 28 d Modified OECD Screening theoretical CO ² evolution 2 % 70 d Modified SCAS Dissolved Organic Carbon removed 90 % Closed Bottle BOD30/COD 5 % Degrades after acclimatization
Bioconcentration factor(BCF):	Not expected to bioaccumulate.

SECTION 13: Disposal considerations

Disposal method : Consult the local environmental protection department

SECTION 14: Transport information

DOT Proper Shipping Name:	Corrosive liquid, acidic, organic, n.o.s. (Copolymer of Maleic and Acrylic Acid)
DOT Class:	8
DOT ID Number:	UN 3265
DOT Pack Group:	III
DOT Label:	Corrosive
IMO Proper Shipping Name:	Corrosive liquid, acidic, organic, n.o.s. (Copolymer of Maleic and Acrylic Acid)
IMO UN Number:	3265
IMO UN Clas :	8
IMO Subsidiary Risk Label:	No data available
IATA UN ID Number:	3265
IATA Proper Shipping Name:	Corrosive liquid, acidic, organic, n.o.s. (Copolymer of Maleic and Acrylic Acid)
IATA Label:	Corrosive
AFI Proper Shipping Name:	Corrosive liquid, acidic, organic, n.o.s. (Copolymer of Maleic and Acrylic Acid)
AFI Class:	8
AFI ID Number:	UN 3265
AFI Pack Group:	III
AFI Labe :	Corrosive
n.o.s. Shipping Name :	Copolymer of Maleic and Acrylic Acid.

SECTION 15: Regulatory information

TSCA Status :

Y



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TSCA 12(b) export notification :	Not listed
CERCLA Section 103 (40 CFR 302.4) :	N
SARA Section 302 (40 CFR 355.30) :	N TPQ
SARA Section 304 (40 CFR 355.40) :	N RQ
SARA Section 313 (40 CFR 372.65) :	N
California Prop 65 Status :	N
SARA Acute Hazard :	N
SARA Chronic Hazard :	N
SARA Fire Hazard :	N
SARA Reactivity Hazard :	N
SARA Sudden Release Hazard :	N
WHMIS Classification :	N

INTERNATIONAL REGULATIONS

Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin. Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. If swallowed, seek medical advice immediately and show this container or label.

SECTION 16: Other information

Shandong Taihe Water Treatment Technologies Co.,Ltd believe that the information contained in each material safety data sheet ("MSDS"), technical data sheet ("TDS"), product information brochure and/or information contained herein (including data and statements) is accurate as of the date of publication. The MSDSs, TDSs, product information brochures, and information contained herein are referred to collectively as the "Data Sheets". It is the responsibility of the user to obtain and use the most recent version of the Data Sheets. Each Data Sheet relates only to the specific product designated therein and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information are beyond the control of Shandong Taihe, expressly disclaims any and all liability as to any consequential damages or results obtained or arising from any use of the products or the information contained in the Data Sheets.

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