



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:



DANGER

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

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.



according to Regulation GB15258-2009

Date of print: 2/9/2015 Rev ision date: 1/26/2015 Date of f irst v ersion: 1/10/2011

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

solution

Ingestion: Short Term Exposure: Burns

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 leat 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 untilwell 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.

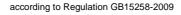
Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry

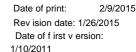
SECTION 7: Handling Storage

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







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

solution

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 / f lash point range: Not available

Density $(20^{\circ}C)$: 1.20g/cm³ min

pH value(1% water solution): 2.0-3.0

Water solubility: Miscible with water with any

proportion



Date of print: 2/9/2015 Rev ision date: 1/26/2015 Date of f irst v ersion: 1/10/2011

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

solution

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.

HWATER

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

ENVIRONMENTAL TOXICITY

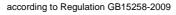
Invertebrates: 48 h, EC50 Water flea (Daphnia magna) 527 mg/l

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.







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

solution

ENVIRONMENTAL FATE

Biodegradation: Zahn-Wellens Dissolved Organic Carbon removed 33 % 28 d

Modified OECD Screening theoretical CO² 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

isposal 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:

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

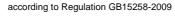
AFI ID Number: UN 3265
AFI Pack Group: III

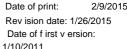
AFI Pack Group:

AFI Labe : Corrosive

n.o.s. Shipping Name: Copolymer of Maleic and Acrylic Acid.

TSCA Status:





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

solution

THWATER

SECTION 15: Regulatory information

TSCA 12(b) export notification: Not listed CERCLA Section 103 (40 CFR 302.4): 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): Ν California Prop 65 Status: Ν SARA Acute Hazard: Ν SARA Chronic Hazard: Ν Ν SARA Fire Hazard: SARA Reactivity Hazard: Ν SARA Sudden Release Hazard: Ν WHMIS Classification: Ν

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 containedin 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.

NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE DATA SHEETS OR THE RELATED PRODUCTS.

No statement made in the Data Sheets or by any employee or agent of Shandong Taihe shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No employee, agent, distributor, or sales representative is authorized to vary the terms of the above paragraph, to make any statements, representations, or warranties inconsistent with the above paragraph, or to provide any information that is at variance with the above paragraph. All materials related to the product are subject in all respects to the above paragraph and to the extent that they are inconsistent with the above paragraph, the terms of the above paragraph shall control.