

SAFETY DATA SHEET

1. Identification

Product identifier American Safety Technologies MS-440G Black Resin

Other means of identification

SKU# MS435R

Recommended use Not available.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Engineered Polymers
Address 130 Commerce Drive
 Montgomeryville, PA 18936
 United States

Telephone Customer Service 215-855-8450

Website www.itwengineeredpolymers.com

E-mail orders.na@itwep.com

Contact person EHS Department

Emergency phone number CHEMTREC 800-424-9300
 International 703-527-3887

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2

Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/eye protection/face protection.

Response If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep cool.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

68.71% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Aluminium Oxide		1344-28-1	30 - 60
Barium Sulfate		7727-43-7	10 - 30
Epoxy Resin:--reaction Product Of Bisphenol A And Epichlorohydrin (refer To Epichlorohydrin)		25068-38-6	5 - 10
1-methoxy-2-propanol		107-98-2	1 - 5
Attapulgite		12174-11-7	1 - 5
Methyl Amyl Ketone (MAK)		110-43-0	1 - 5
Phenol, 4,4'-(1-methylethylidene)bis-, Polymer With 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]		25036-25-3	1 - 5
Solvent naphtha, petroleum, light aromatic		64742-95-6	1 - 5
Titanium Dioxide		13463-67-7	1 - 5
1,2,4-trimethylbenzene		95-63-6	1 - < 3
Other components below reportable levels			< 20

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures**Suitable extinguishing media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium Oxide (CAS 1344-28-1)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Barium Sulfate (CAS 7727-43-7)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Methyl Amyl Ketone (MAK) (CAS 110-43-0)	PEL	465 mg/m ³	
		100 ppm	
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2,4-trimethylbenzene (CAS 95-63-6)	TWA	25 ppm	
1-methoxy-2-propanol (CAS 107-98-2)	STEL	100 ppm	
	TWA	50 ppm	
Aluminium Oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Barium Sulfate (CAS 7727-43-7)	TWA	5 mg/m ³	Inhalable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Methyl Amyl Ketone (MAK) (CAS 110-43-0)	TWA	50 ppm	
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1,2,4-trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
1-methoxy-2-propanol (CAS 107-98-2)	STEL	25 ppm	
		540 mg/m3	
		150 ppm	
Barium Sulfate (CAS 7727-43-7)	TWA	360 mg/m3	
		100 ppm	
		5 mg/m3	Respirable.
Methyl Amyl Ketone (MAK) (CAS 110-43-0)	TWA	10 mg/m3	Total
		465 mg/m3	
		100 ppm	

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines**US - California OELs: Skin designation**

1-methoxy-2-propanol (CAS 107-98-2) Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance Viscous. Liquid.

Physical state Liquid.

Form Viscous. Liquid.

Color Grey. or Black.

Odor Strong.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range	> 240 °F (> 115.56 °C)
Flash point	102.0 °F (38.9 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	8 mm Hg
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	748.4 °F (398 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	2.93 g/cm ³ estimated
Explosive properties	Not explosive.
Flammability class	Combustible II estimated
Oxidizing properties	Not oxidizing.
Specific gravity	2.93 estimated
VOC (Weight %)	215 g/l mixed components

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	May cause an allergic skin reaction.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Attapulgite (CAS 12174-11-7)

2B Possibly carcinogenic to humans.

3 Not classifiable as to carcinogenicity to humans.

Titanium Dioxide (CAS 13463-67-7)

2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Methyl Amyl Ketone (MAK)

1.98

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1263

UN proper shipping name Paint

Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions B1, B52, IB3, T4, TP1, TP29

Packaging exceptions 150
Packaging non bulk 203
Packaging bulk 242

IATA

UN number UN1263
UN proper shipping name Paint
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1263
UN proper shipping name Paint
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1-methoxy-2-propanol (CAS 107-98-2) Listed.
 Barium Sulfate (CAS 7727-43-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

1,2,4-trimethylbenzene (CAS 95-63-6) % 1.0
 Aluminium Oxide (CAS 1344-28-1) % 1.0

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

1,2,4-trimethylbenzene (CAS 95-63-6) Listed.
 Aluminium Oxide (CAS 1344-28-1) Listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Aluminium Oxide	1344-28-1	30 - 60
1,2,4-trimethylbenzene	95-63-6	1 - < 3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Methyl Amyl Ketone (MAK) (CAS 110-43-0) Other Flavoring Substances with OSHA PEL's

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2,4-trimethylbenzene (CAS 95-63-6)
 1-methoxy-2-propanol (CAS 107-98-2)
 Attapulgate (CAS 12174-11-7)
 Phenol, 4,4'-(1-methylethylidene)bis-, Polymer With 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (CAS 25036-25-3)
 Solvent naphtha, petroleum, light aromatic (CAS 64742-95-6)
 Titanium Dioxide (CAS 13463-67-7)

US. Massachusetts RTK - Substance List

1,2,4-trimethylbenzene (CAS 95-63-6)
 1-methoxy-2-propanol (CAS 107-98-2)
 Aluminium Oxide (CAS 1344-28-1)
 Barium Sulfate (CAS 7727-43-7)
 Methyl Amyl Ketone (MAK) (CAS 110-43-0)
 Titanium Dioxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

1,2,4-trimethylbenzene (CAS 95-63-6)
 1-methoxy-2-propanol (CAS 107-98-2)
 Aluminium Oxide (CAS 1344-28-1)

Barium Sulfate (CAS 7727-43-7)
Methyl Amyl Ketone (MAK) (CAS 110-43-0)
Titanium Dioxide (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,4-trimethylbenzene (CAS 95-63-6)
1-methoxy-2-propanol (CAS 107-98-2)
Aluminium Oxide (CAS 1344-28-1)
Barium Sulfate (CAS 7727-43-7)
Methyl Amyl Ketone (MAK) (CAS 110-43-0)
Titanium Dioxide (CAS 13463-67-7)

US. Rhode Island RTK

1,2,4-trimethylbenzene (CAS 95-63-6)
Aluminium Oxide (CAS 1344-28-1)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Attapulgit (CAS 12174-11-7)	Listed: December 28, 1999
Benzene (CAS 71-43-2)	Listed: February 27, 1987
Crystalline SiO ₂ (Quartz) (CAS 14808-60-7)	Listed: October 1, 1988
Cumene (CAS 98-82-8)	Listed: April 6, 2010
Titanium Dioxide (CAS 13463-67-7)	Listed: September 2, 2011

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997
Chloromethane (CAS 74-87-3)	Listed: March 10, 2000
Toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997
Chloromethane (CAS 74-87-3)	Listed: August 7, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date	03-30-2016
Version #	01
HMIS® ratings	Health: 2 Flammability: 2 Physical hazard: 1 Personal protection: B
NFPA ratings	Health: 2 Flammability: 2 Instability: 1

Disclaimer

ITW Engineered Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.