SAFETY DATA SHEET

1. Identification

Product identifier PLEXUS® MA590 Adhesive

Other means of identification

SKU# IT170

Recommended useNot available. **Recommended restrictions**None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Performance Polymers

Address 30 Endicott Street

Danvers, MA 01923

United States

Telephone Customer Service 978-777-1100

Website www.itwperformancepolymers.com

E-mail Not available.

Contact person EHS Department

Emergency phone number Chemtrec 800-424-9300

International 703-527-3887

2. Hazard(s) identification

Physical hazardsFlammable liquidsCategory 2Health hazardsAcute toxicity, inhalationCategory 4Skin corrosion/irritationCategory 2Serious eye damage/eye irritationCategory 2A

Sensitization, skin

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Category 1A

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction.

Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation.

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. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. 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 inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off

contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to

extinguish.

Storage Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Hazard(s) not otherwise classified (HNOC)

Supplemental information

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

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Methyl Methacrylate		80-62-6	40 - 60
DODECYL METHACRYLATE		142-90-5	2.5 - 10
Poly(2-chloro-1,3-butadiene)		9010-98-4	2.5 - 10
POLY(OXY-1,2-ETHANEDIYL), .ALPHA(2- METHYL-1-OXO-2-PROPENYL)C MEGAMETHOXY-)	26915-72-0	2.5 - 10
TETRADECYL METHACRYLATE		2549-53-3	2.5 - 10
HEXADECYL METHACRYLATE		2495-27-4	1 - 2.5
MALEIC ACID		110-16-7	1 - 2.5
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl	-	128-37-0	1 - 2.5
TERT-BUTYL PERBENZOATE		614-45-9	1 - 2.5
Other components below reportable	e levels		20 - 40

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.

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

symptoms/effects, acute and delayed

Indication of immediate medical attention and special treatment needed

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

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 warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). 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. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

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. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. 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.

Material name: PLEXUS® MA590 Adhesive IT170 Version #: 01 Issue date: 06-19-2019

Specific methods General fire hazards Use standard firefighting procedures and consider the hazards of other involved materials. Highly 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/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. 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.

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.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

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. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. 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/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in 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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components Type Value Methyl Methacrylate (CAS 80-62-6) PEL 410 mg/m3 100 ppm

Material name: PLEXUS® MA590 Adhesive IT170 Version #: 01 Issue date: 06-19-2019

US. ACGIH Threshold Limit Values Components	s Type	Value	Form
Methyl Methacrylate (CAS 80-62-6)	STEL	100 ppm	
	TWA	50 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4- methyl- (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
US. NIOSH: Pocket Guide to Chem	ical Hazards		
Components	Туре	Value	
Methyl Methacrylate (CAS 80-62-6)	TWA	410 mg/m3	
		400	
		100 ppm	

Biological limit values

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

acceptable level. Provide eyewash station and safety shower.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation 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

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.Other Wear appropriate chemical resistant clothing.

Respiratory protectionChemical respirator with organic vapor cartridge and full facepiece. **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 Paste.
Physical state Liquid.
Form Paste.
Color Off-white.

Odor Fragrant
Odor threshold Not available.
ph Not available.

Melting point/freezing point -54.4 °F (-48 °C) estimated Initial boiling point and boiling 212.9 °F (100.5 °C) estimated

range

Flash point

50.0 °F (10.0 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

2.1 % estimated

(%)

Flammability limit - upper

12.5 % estimated

(%)

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available. 28 mm Hg @ 68 F Vapor pressure Vapor density Not available. Relative density Not available.

Solubility(ies)

Not available. Solubility (water) Partition coefficient Not available.

(n-octanol/water)

Not available. **Auto-ignition temperature Decomposition temperature** Not available. Not available. Viscosity

Other information

Density 0.97 g/cm3 estimated

Not explosive. **Explosive properties**

Flammability class Flammable IB estimated

Oxidizing properties Not oxidizing. Specific gravity 0.97 estimated

10. Stability and reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport. Reactivity

Chemical stability Material is stable under normal conditions. Hazardous polymerization does not occur. Possibility of hazardous

reactions

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the Conditions to avoid

flash point. Contact with incompatible materials.

Strong oxidizing agents. Nitrates. Peroxides. Incompatible materials Hazardous decomposition

products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Harmful if inhaled.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye irritation.

Knowledge about health hazard is incomplete. Ingestion

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

allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Harmful if inhaled. **Acute toxicity**

Components **Species Test Results**

DODECYL METHACRYLATE (CAS 142-90-5)

Acute

Oral

LD50 Rat > 5 g/kg

MALEIC ACID (CAS 110-16-7)

Acute Dermal

LD50 Rabbit 1560 mg/kg

Oral

LD50 Rat 708 mg/kg

Material name: PLEXUS® MA590 Adhesive IT170 Version #: 01 Issue date: 06-19-2019

Species Test Results Components

Methyl Methacrylate (CAS 80-62-6)

Acute Inhalation

LC50 Mouse 18.5 mg/l, 2 Hours

Oral

LD50 Rat 7800 mg/kg

Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)

Acute Oral

LD50 890 mg/kg Rat

Skin corrosion/irritation Causes skin irritation. Serious eye damage/eye Causes serious eye irritation.

irritation

Respiratory or skin sensitization

ACGIH sensitization

METHYL METHACRYLATE (CAS 80-62-6) Dermal sensitization

Due to partial or complete lack of data the classification is not possible. Respiratory sensitization

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible. Carcinogenicity Due to partial or complete lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methyl Methacrylate (CAS 80-62-6) 3 Not classifiable as to carcinogenicity to humans. Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-3 Not classifiable as to carcinogenicity to humans.

(CAS 128-37-0)

Poly(2-chloro-1,3-butadiene) (CAS 9010-98-4) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Due to partial or complete lack of data the classification is not possible.

May cause respiratory irritation.

Specific target organ toxicity single exposure

Specific target organ toxicity -

repeated exposure

Due to partial or complete lack of data the classification is not possible.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the

possibility that large or frequent spills can have a harmful or damaging effect on the environment.

No data is available on the degradability of any ingredients in the mixture. Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

MALEIC ACID -0.48Methyl Methacrylate 1.38

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. Incinerate the

> material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of

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

Local disposal regulations Dispose in accordance with all applicable regulations.

D001: Waste Flammable material with a flash point <140 F 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).

Since emptied containers may retain product residue, follow label warnings even after container is Contaminated packaging

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN1133

UN proper shipping name Transport hazard class(es)

Adhesives, containing a flammable liquid

Class 3 Subsidiary risk Label(s) 3 Packing group Ш

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

B1, B52, IB3, T2, TP1 Special provisions

150 Packaging exceptions Packaging non bulk 173 242 Packaging bulk

IATA

UN number UN1133

UN proper shipping name Adhesives containing flammable liquid

Transport hazard class(es)

Class 3 Subsidiary risk Ш Packing group **Environmental hazards** No. **ERG Code** 3L

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

Other information

Passenger and cargo

Allowed with restrictions.

aircraft

Allowed with restrictions. Cargo aircraft only

IMDG

UN number UN1133

UN proper shipping name Transport hazard class(es) ADHESIVES containing flammable liquid

Class 3 Subsidiary risk Ш Packing group

Environmental hazards

Marine pollutant No.

F-E, S-D **EmS**

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Not established.

Transport in bulk according to Annex II of MARPOL 73/78 and

the IBC Code

Material name: PLEXUS® MA590 Adhesive IT170 Version #: 01 Issue date: 06-19-2019



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.

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

Methyl Methacrylate (CAS 80-62-6)

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

Methyl Methacrylate (CAS 80-62-6) Listed.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

MALEIC ACID (CAS 110-16-7)

Methyl Methacrylate (CAS 80-62-6)

Listed.

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous Yes

chemical

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure)

Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitization

Specific target organ toxicity (single or repeated exposure)

Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Chemical nameCAS number% by wt.Methyl Methacrylate80-62-640 - 60

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methyl Methacrylate (CAS 80-62-6)

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

Not regulated.

Safe Drinking Water Act

Contains component(s) regulated under the Safe Drinking Water Act.

(SDWA)

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

Methyl Methacrylate (CAS 80-62-6) Low priority

US state regulations

California Proposition 65



WARNING: This product can expose you to chemicals including Titanium Dioxide, which is known to the State of California to cause cancer, and Ethylene Glycol, which is known to the State of California to

cause birth defects or other reproductive harm. For more information go

to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Titanium Dioxide (CAS 13463-67-7) Listed: September 2, 2011

California Proposition 65 - CRT: Listed date/Developmental toxin

Inventory name

DIISODECYL PHTHALATE (DIDP) Listed: April 20, 2007

(CAS 26761-40-0)

Ethylene Glycol (CAS 107-21-1) Listed: June 19, 2015

Domestic Substances List (DSL)

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

Australian Inventory of Chemical Substances (AICS)

Methyl Methacrylate (CAS 80-62-6)

International Inventories

Australia

Canada

Country(s) or region

	, ,	
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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
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)

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

06-19-2019 Issue date

Version #

Health: 2 **HMIS®** ratings

Flammability: 3 Physical hazard: 0

Health: 2

NFPA ratings

Flammability: 3 Instability: 0

Material name: PLEXUS® MA590 Adhesive IT170 Version #: 01 Issue date: 06-19-2019 On inventory (yes/no)*

No

No

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).

Disclaimer

ITW Performance 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 provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.