

RED OPAQUE SMARTBACTH PMMA

Version Number 1.0 Page 1 of 15 Print Date 10/29/2015 Revision Date 06/30/2015

SAFETY DATA SHEET

RED OPAQUE SMARTBACTH PMMA

Section 1. Identification

GHS product identifier RED OPAQUE SMARTBACTH PMMA

Chemical name Mixture CAS number Mixture Other means of identification CC10219978

Product type solid

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

Product use Industrial applications. Plastics.

Supplier's details POLYONE CORPORATION

33587 Walker Road, Avon Lake, OH 44012

1 (440) 930-1000 or 1 (866) POLYONE

Emergency telephone number

(with hours of operation)

CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure

or accident). CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire,

exposure or accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status While this material is not considered hazardous by the OSHA Hazard

Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and

other users of this product.

Classification of the substance or

mixture

Not classified.

GHS label elements



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Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Not applicable.
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.
Supplemental label elements : None known.
Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture: MixtureChemical name: MixtureOther means of identification: CC10219978

CAS number/other identifiers

Ingredient name	%	CAS number
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)-	5 - 10	25973-55-1
Titanium dioxide	1 - 5	13463-67-7
2-Propenoic acid, 2-methyl-, methyl ester	0.1 - 1	80-62-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures



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Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the

upper and lower eyelids. Check for and remove any contact lenses.

Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable

for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated

clothing and shoes. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. Remove victim to fresh air and keep at

rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by

medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Exposure to decomposition products may cause a health hazard.

Serious effects may be delayed following exposure.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms

may be delayed. The exposed person may need to be kept under

medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without

suitable training.



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See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media In case of fire, use water spray (fog), foam, dry chemical or CO_2 .

None known.

Specific hazards arising from the chemical

Hazardous thermal decomposition products

No specific fire or explosion hazard.

Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

halogenated compounds metal oxide/oxides

Special protective actions for firefighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and selfcontained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



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Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and

place in a designated, labeled waste container. Dispose of via a

licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water

courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency

contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Advice on general occupational

hygiene

Put on appropriate personal protective equipment (see Section 8).

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits	
Titanium dioxide	OSHA PEL 1989 (1989-03-01)	
	PEL: Permissible Exposure Level 10 mg/m3 Form: Total dust	
	OSHA PEL (1993-06-30)	
	PEL: Permissible Exposure Level 15 mg/m3 Form: Total dust	
	ACGIH TLV (1996-05-18)	
	TLV-TWA: Threshold Limit Value - Time weighted average PEL:	
	5/45	



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	Permissible Exposure Level 10 mg/m3
2-Propenoic acid, 2-methyl-, methyl este	er OSHA PEL 1989 (1989-03-01) PEL: Permissible Exposure Level 410 mg/m3 100 ppm
	OSHA PEL (1993-06-30)
	PEL: Permissible Exposure Level 410 mg/m3 100 ppm NIOSH REL (1994-06-01)
	Time Weighted Average (TWA) 410 mg/m3 100 ppm
	ACGIH TLV (2000-03-01)
	TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 50 ppm
	TLV-STEL: Threshold Limit Value - Short Time Exposure Level
	100 ppm
A	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	Emissions from ventilation or work process equipment should be
	checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers,
	filters or engineering modifications to the process equipment will be
	necessary to reduce emissions to acceptable levels.
<u>Individual protection measures</u>	
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical
	products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to
	remove potentially contaminated clothing. Wash contaminated
	clothing before reusing. Ensure that eyewash stations and safety
Eye/face protection	showers are close to the workstation location. Safety eyewear complying with an approved standard should be used
Lychaec protection	when a risk assessment indicates this is necessary to avoid exposure to
	liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a
	higher degree of protection: safety glasses with side-shields.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved
-	standard should be worn at all times when handling chemical products
Body protection	if a risk assessment indicates this is necessary.Personal protective equipment for the body should be selected based
=J P	protective equipment for the body should be believed bused



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on the task being performed and the risks involved and should be

approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures

should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this

product.

Respiratory protection: Use a properly fitted, particulate filter respirator complying with an

approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the

selected respirator.

Not available.

Section 9. Physical and chemical properties

Appearance

Physical state : solid [Pellets.]

Color **RED** Odor Faint odor. **Odor threshold** Not available. Not available. pН **Melting point** Not available. **Boiling point** Not available. Flash point Not available. **Burning time** Not available. **Burning rate** Not available. **Evaporation rate** Not available.

Lower and upper explosive : Lower: Not available. (flammable) limits : Upper: Not available.

Vapor pressure
Vapor density
Relative density
Solubility
Solubility in water

Solubility
Solubility in water

Solubility

Partition coefficient: n- Not available.

octanol/water

Flammability (solid, gas)

Auto-ignition temperature: Not available.Decomposition temperature: Not available.SADT: Not available.

Viscosity : Dynamic: Not available.

Kinematic: Not available.



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Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or

its ingredients.

Chemical stability : Stable under recommended storage and handling conditions (see

Section 7).

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will

not occur.

Conditions to avoid : Keep away from extreme heat and oxidizing agents.

Incompatible materials : Keep away from strong acids.

Oxidizer.

Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition

products should not be produced.

Section 11. Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
Titanium dioxide					
	LC50 Inhalation	Rat - Male	6.82 Mg/l	4 h	
	LD50 Dermal	Rabbit	> 5,000 mg/kg	-	
2-Propenoic acid, 2-methyl-, r	2-Propenoic acid, 2-methyl-, methyl ester				
	LD50 Oral	Rat	7,872 mg/kg	-	
	LC50 Inhalation	Rat	78 mg/l	4 h	
	LD50 Dermal	Rabbit	5,000 mg/kg	-	

Conclusion/Summary : Mixture. Not fully tested.

Irritation/Corrosion

Conclusion/Summary

Skin: Mixture.Not fully tested.Eyes: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

Sensitization

Conclusion/Summary



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Skin: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

Mutagenicity

Conclusion/Summary: Mixture.Not fully tested.

Carcinogenicity

Conclusion/Summary : Mixture.Not fully tested.

Classification

- 0	CIMBBILIUMVIOII			
	Product/ingredient	OSHA	IARC	NTP
	name			
	Titanium dioxide		2B	
	2-Propenoic acid, 2-		3	
	methyl-, methyl ester			

Reproductive toxicity

Conclusion/Summary : Mixture. Not fully tested.

Teratogenicity

Conclusion/Summary : Mixture. Not fully tested.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2-Propenoic acid, 2-methyl-,	Category 3		Respiratory tract irritation
methyl ester			

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Phenol, 2-(2H-benzotriazol-	Category 2	OralOral	kidneys
2-yl)-4,6-bis(1,1-			liver
dimethylpropyl)-			

Aspiration hazard

Not available.

Information on the likely routes of :

Not available.

exposure

Potential acute health effects

Eye contact: No known significant effects or critical hazards.



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Inhalation : Exposure to decomposition products may cause a health hazard.

Serious effects may be delayed following exposure.

Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Mixture. Not fully tested.

General:No known significant effects or critical hazards.Carcinogenicity:No known significant effects or critical hazards.Mutagenicity:No known significant effects or critical hazards.Teratogenicity:No known significant effects or critical hazards.Developmental effects:No known significant effects or critical hazards.Fertility effects:No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information



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Toxicity

Product/ingredient name	Result	Species	Exposure	
Titanium dioxide				
	Acute LC50 > 1,000,000 µg/l Marine water	Fish - Mummichog	96 h	
	Acute LC50 > 1,000 mg/l Fresh water	Fish - Fathead minnow	96 h	
	Acute LC50 13 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h	
	Acute EC50 19.3 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h	
	Acute EC50 27.8 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h	
	Acute EC50 35.306 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h	
2-Propenoic acid, 2-methyl-, r	nethyl ester			
	Acute LC50 159,100 μg/l Fresh water	Fish - Fathead minnow	96 h	
	Acute LC50 191,000 μg/l Fresh water	Fish - Bluegill	96 h	
	Acute LC50 130,000 μg/l Fresh water	Fish - Fathead minnow	96 h	
	Acute LC50 150,000 μg/l Fresh water	Fish - Fathead minnow	96 h	
	Acute LC50 160,200 μg/l Fresh water	Fish - Fathead minnow	96 h	
RED OPAQUE SMARTBAC	TH PMMA			
Remarks - Acute - Aquatic invertebrates.:	Chemicals are not readily available a	as they are bound within the	polymer matrix.	

Conclusion/Summary

: Chemicals are not readily available as they are bound within the polymer matrix.

Persistence and degradability

Conclusion/Summary

: Chemicals are not readily available as they are bound within the

polymer matrix.

Conclusion/Summary

: Chemicals are not readily available as they are bound within the polymer matrix.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
	11	1/15	



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Titanium dioxide		352.00	low
2-Propenoic acid, 2-methyl-,	1.38	-	low
methyl ester			

Mobility in soil

Soil/water partition coefficient

(KOC)

Other adverse effects

Not available.

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S. DOT Classification : Not regulated for transportation.

ICAO/IATA : Not classified as dangerous good under transport regulations.

IMO/IMDG (maritime) : Not classified as dangerous good under transport regulations.

Section 15. Regulatory information

U.S. Federal regulations : United States - TSCA 12(b) - Chemical export notification: None

of the components are listed.

United States - TSCA 4(a) - Final Test Rules: Not listed



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United States - TSCA 4(a) - ITC Priority list: Not listed United States - TSCA 4(a) - Proposed test rules: Not listed United States - TSCA 4(f) - Priority risk review: Not listed United States - TSCA 5(a)2 - Final significant new use rules: Not

United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed

United States - TSCA 5(e) - Substances consent order: Not listed United States - TSCA 6 - Final risk management: Not listed United States - TSCA 6 - Proposed risk management: Not listed United States - TSCA 8(a) - Chemical risk rules: Not listed United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined

United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed

United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed

United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed

United States - EPA Clean water act (CWA) section 311 -

Hazardous substances: Listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Flammable substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Toxic substances: Not listed

United States - Department of commerce - Precursor chemical:

Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I

Substances

Not listed

Not listed

Clean Air Act Section 602 Class II

Substances

Not listed

DEA List I Chemicals (Precursor : Not

Chemicals)

Not listed

DEA List II Chemicals (Essential

Not listed

Chemicals)

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312



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Classification : Not applicable.

Composition/information on ingredients

Name	%	Classification
Phenol, 2-(2H-benzotriazol-2-yl)-	5 - 10	СН
4,6-bis(1,1-dimethylpropyl)-		
Titanium dioxide	1 - 5	СН
2-Propenoic acid, 2-methyl-,	0.1 - 1	F, AH
methyl ester		

SARA 313

Not applicable.

State regulations

Massachusetts : The following components are listed:

Titanium dioxide

New York : None of the components are listed.
New Jersey : The following components are listed:

Titanium dioxide

Pennsylvania : The following components are listed:

Titanium dioxide

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada inventory : Not determined.

International regulations

International lists : Australia inventory (AICS): Not determined.

Taiwan inventory (CSNN): Not determined.

Malaysia Inventory (EHS Register): Not determined. EINECS: All components are listed or exempted.

Japan inventory: Not determined.

China inventory (IECSC): Not determined.

Korea inventory: Not determined.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Philippines inventory (PICCS): Not determined.

Chemical Weapons Convention : Not listed



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List Schedule I Chemicals

Chemical Weapons Convention

List Schedule II Chemicals

Chemical Weapons Convention

List Schedule III Chemicals

Not listed

Not listed

Section 16. Other information

History

Date of printing: 10/29/2015Date of issue/Date of revision: 06/30/2015Date of previous issue: 00/00/0000

Version : 1.0

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of

Chemicals

IATA = International Air Transport Association

 $IBC = Intermediate \ Bulk \ Container$

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine

pollution)

UN = United Nations

References : Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.