

POLYONE CORPORATION**MATERIAL SAFETY DATA SHEET****TITANIUM ABS**Version Number 1.1
Revision Date 03/29/2014Page 1 of 8
Print Date 4/6/2014**1. PRODUCT AND COMPANY IDENTIFICATION****POLYONE CORPORATION**
33587 Walker Road, Avon Lake, OH 44012

Telephone : 1 (440) 930-1000 or 1 (866) POLYONE
Emergency telephone : **CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure number or accident).**

Product name : TITANIUM ABS
Product code : CC10144979
Chemical Name : Mixture
CAS-No. : Mixture
Product Use : Industrial Applications

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight percent
Styrene	100-42-5	0.1 - 1
Aluminum	7429-90-5	10 - 30

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

This mixture has not been evaluated as a whole for health effects. Information provided on health effects of this product is based on the individual components. However, some vapors or contaminants 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. See sections 8 and 11 for special precautions.

POTENTIAL HEALTH EFFECTS**Routes of Exposure:** : Inhalation, Skin contact, Ingestion**Acute exposure**

Inhalation : Resin particles, like other inert materials, can be mechanically irritating.
Ingestion : May be harmful if swallowed.
Eyes : Particulates, like other inert materials can be mechanically irritating.
Skin : Experience shows no unusual dermatitis hazard from routine handling.

Chronic exposure : Refer to Section 11 for Toxicological Information.

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Medical Conditions : None known.
Aggravated by Exposure:

4. FIRST AID MEASURES

Inhalation : Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. When symptoms persist or in all cases of doubt seek medical advice.

Ingestion : Do not induce vomiting without medical advice. When symptoms persist or in all cases of doubt seek medical advice.

Eyes : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention.

Skin : Wash off with soap and plenty of water. If skin irritation persists seek medical attention.

5. FIREFIGHTING MEASURES

Flash point : not applicable

Flammable Limits
Upper explosion limit : not applicable
Lower explosion limit : not applicable
Auto-ignition temperature : not applicable
Suitable extinguishing media : Class D special powder against metal fire, Dry chemical.

Special Fire Fighting Procedures : Fullface self-contained breathing apparatus (SCBA) used in positive pressure mode should be worn to prevent inhalation of airborne contaminants.

Unusual Fire/Explosion Hazards : Dust containing aluminum powder can be explosive. Do not use a solid water stream as it may scatter and spread fire. Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), other hazardous materials, and smoke are all possible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear appropriate personal protection during cleanup, such as impervious gloves, boots and coveralls.

Environmental precautions : Should not be released into the environment. The product should not be allowed to enter drains, water courses or the soil.

Methods for cleaning up : Clean up promptly by sweeping or vacuum. Package all material in plastic, cardboard or metal containers for disposal.

7. HANDLING AND STORAGE

Handling : Take measures to prevent the build up of electrostatic charge. Heat

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only in areas with appropriate exhaust ventilation.

Storage : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep in a dry, cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection : No personal respiratory protective equipment normally required. If dusty conditions occur wear appropriate respiratory protection.

Eye/Face Protection : Safety glasses with side-shields

Hand protection : Protective gloves. Refer to equipment supplier to ensure protection.

Skin and body protection : Long sleeved clothing

Additional Protective Measures : Safety shoes

General Hygiene Considerations : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Engineering measures : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.

Exposure limit(s)

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Components	Value	Exposure time	Exposure type	List:	
Aluminum	1 mg/m3	Time Weighted Average (TWA):	Respirable fraction.	ACGIH	
	10 mg/m3	Recommended exposure limit (REL):	Total	NIOSH	
	5 mg/m3	Recommended exposure limit (REL):	Respirable.	NIOSH	
	5 mg/m3	Recommended exposure limit (REL):	Welding fume or pyrophoric powder. as Al	NIOSH	
	15 mg/m3	PEL:	Total dust. as Al	OSHA Z1	
	5 mg/m3	PEL:	Respirable dust. as Al	OSHA Z1	
	15 mg/m3	Time Weighted Average (TWA):	Total dust. as Al	OSHA Z1A	
	5 mg/m3	Time Weighted Average (TWA):	Respirable dust. as Al	OSHA Z1A	
	5 mg/m3	Time Weighted Average (TWA):	Pyrophoric powder. as Al	OSHA Z1A	
	5 mg/m3	Time Weighted Average (TWA):	Fume. as Al	OSHA Z1A	
	5 mg/m3	Time Weighted Average (TWA):	Welding fume.	MX OEL	
	10 mg/m3	Time Weighted Average (TWA):	Dust.	MX OEL	
	5 mg/m3	Time Weighted Average (TWA):	Pyrophoric powder.	MX OEL	
	Styrene	20 ppm	Time Weighted Average (TWA):		ACGIH
		40 ppm	Short Term Exposure Limit (STEL):		ACGIH
50 ppm 215 mg/m3		Recommended exposure limit (REL):		NIOSH	
100 ppm 425 mg/m3		Short Term Exposure Limit (STEL):		NIOSH	
100 ppm		Time Weighted Average (TWA):		OSHA Z2	
200 ppm		Ceiling Limit Value:		OSHA Z2	
600 ppm		Maximum concentration:		OSHA Z2	
50 ppm 215 mg/m3		Time Weighted Average (TWA):		OSHA Z1A	
100 ppm 425 mg/m3		Short Term Exposure Limit (STEL):		OSHA Z1A	
50 ppm 215 mg/m3		Time Weighted Average (TWA):		MX OEL	
100 ppm 425 mg/m3	Short Term Exposure Limit (STEL):		MX OEL		

9. PHYSICAL AND CHEMICAL PROPERTIES

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Form	: solid	Evaporation rate	: Not applicable
Appearance	: powder, granular	Specific Gravity	: Not determined
Colour	: GREY	Bulk density	: Not determined
Odour	: very faint	Vapour pressure	: not applicable
Melting point/range	: Not determined	Vapour density	: not applicable
Boiling Point:	: not applicable	pH	: not applicable
Water solubility	: insoluble		

10. STABILITY AND REACTIVITY

Stability	: The product is stable if stored and handled as prescribed.
Hazardous Polymerization	: Will not occur.
Conditions to avoid	: To avoid thermal decomposition, do not overheat. Keep away from oxidizing agents and open flame.
Incompatible Materials	: Incompatible with acids and bases., Oxidizing agents, Halogenated compounds
Hazardous decomposition products	: Carbon dioxide (CO ₂), carbon monoxide (CO), oxides of nitrogen (NO _x), other hazardous materials, and smoke are all possible.

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.

Toxicity Overview

This product contains the following components which in their pure form have the following characteristics:

CAS-No.	Chemical Name	Effect	Target Organ
100-42-5	Styrene	Irritant	Eyes, Respiratory system.
		Systemic effects	Eyes, Skin, Respiratory system, Liver, central nervous system (CNS).
7429-90-5	Aluminum	Irritant	Skin, Respiratory system.
		Systemic effects	Eyes, Skin, Respiratory system.

LC50 / LD50

This product contains the following components which, in their pure form, have the following toxicity data:

CAS-No.	Chemical Name	Route	Value	Species
100-42-5	Styrene	LC50	12 gm/m ³	rat
		Oral LD50	2,650 mg/kg	rat

Carcinogenicity

This product contains the following components which, in their pure form, have the following carcinogenicity data:

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CAS-No.	Chemical Name	OSHA	IARC	NTP
100-42-5	Styrene	no	2B	no

IARC Carcinogen Classifications:

- 1 - The component is carcinogenic to humans.
- 2A - The component is probably carcinogenic to humans.
- 2B - The component is possibly carcinogenic to humans.

NTP Carcinogen Classifications:

- 1 - The component is known to be a human carcinogen.
- 2 - The component is reasonably anticipated to be a human carcinogen.

Additional Health Hazard Information:

Styrene 100-42-5 Irritating to eyes, skin, and respiratory tract with many CNS effects such as narcosis, cramps and respiratory tract paralysis.

12. ECOLOGICAL INFORMATION

- Persistence and degradability : Not readily biodegradable.
- Environmental Toxicity : Chemicals are not readily available as they are bound within the polymer matrix.
- Bioaccumulation Potential : Chemicals are not readily available as they are bound within the polymer matrix.
- Additional advice : no data available

13. DISPOSAL CONSIDERATIONS

- Product : Where possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations.
- Contaminated packaging : Recycling is preferred when possible. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations.

14. TRANSPORT INFORMATION

- U.S. DOT Classification : Not regulated for transportation.
- ICAO/IATA : Refer to specific regulation.
- IMO/IMDG (maritime) : Refer to specific regulation.

15. REGULATORY INFORMATION

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US Regulations:

- OSHA Status : Classified as hazardous based on components.
- TSCA Status : All components of this product are listed on or exempt from the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

California Proposition : Not applicable
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SARA Title III Section 302 Extremely Hazardous Substance

Unless specific chemicals are identified under this section, this product is Not Applicable under this regulation

SARA Title III Section 313 Toxic Chemicals:

Unless specific chemicals are identified under this section, this product is Not Applicable under this regulation

Chemical Name	CAS-No.	Weight percent
ALUMINUM (FUME OR DUST)ALUMINUM (FUME OR DUST)	7429-90-5	10.00 - 30.00
STYRENE	100-42-5	0.10 - 1.00

Canadian Regulations:

National Pollutant Release Inventory (NPRI)

Chemical Name	CAS-No.	Weight percent	NPRI ID#
Aluminum	7429-90-5	10.00 - 30.00	
Rutile, antimony chromium buff	68186-90-3	0.10 - 1.00	
Styrene	100-42-5	0.10 - 1.00	

WHMIS Classification : D2B

WHMIS Ingredient Disclosure List

CAS-No.
7429-90-5

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100-42-5

DSL : All components of this product are on the Canadian Domestic Substances List (DSL) or are exempt.

National Inventories:

Australia AICS : Listed
China IECS : Listed
Europe EINECS : Listed
Japan ENCS : Not determined
Korea KECI : Listed
Philippines PICCS : Listed

16. OTHER INFORMATION

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. 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.