Design Beyond the Surface

Material Safety Data Sheet

Material Name: ClearCore™ High Impact Acrylic Sheet

*** Section 1 – Chemical Product and Company Identification ***

Manufacturer Information
Advanced Technology, Inc.
6106 West Market Street
Greensboro, NC 27409
Phone: 336-668-0488
Fax: 336-668-0713

*** Section 2 – Hazards Identification ***

Potential Health Effects: Eyes

Vapors from heated product can irritate the eyes.

Potential Health Effects: Skin

Possible skin irritation. Contact with molten material can result in burns.

Potential Health Effects: Ingestion

Low hazard associated with normal conditions.

Potential Health Effects: Inhalation

Inhalation of vapors from heated product can cause nausea, headache, dizziness as well as irritation of lungs, nose, and throat.

Carcinogenicity:

N/A

HMIS Ratings: Health: 1 **Fire:** 1 **HMIS Reactivity:** 0

Hazard Scale: 0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic hazard

*** Section 3 – Composition / Information on Ingredients ***

CAS #	Component
9010-88-2	Polymethyl methacrylate (PMMA)
27136-15-8	Poly (methyl methacrylate/butyl acrylate/styrene (PMMA/BA/S)
80-62-6	Methyl methacrylate (MMA)
Not Available	Metallic foil
24981-14-4	Ethene, fluoro-, homopolymer
9003-55-8	Styrene-Butadiene polymer
9003-53-6	Polystyrene
Not Available	Polyethylene Masking
1333-86-4	Carbon black
68610-51-5	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene
100-42-5	Styrene
68584-75-8	2-Propenoic acid, 2-methyl-, methyl ester, polymer with oxiranylmethyl-2-methyl-2-propenoate, ammonia-modified
1309-37-1	Iron oxide
13463-67-7	Titanium dioxide
104810-47-1	Poly(oxy-1,2-ethanediyl), α-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-ω-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxyl]-
104810-48-2	Poly(oxy-1,2-ethanediyl), α-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]- ω-hydroxy-

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*** Section 4 – First Aid Measures ***

First Aid: Eyes

Flush eyes with plenty of water for at least 15 minutes. Call a physician.

First Aid: Skin

If molten polymer contacts skin, cool rapidly with cold water and obtain medical attention for thermal burn.

First Aid: ingestion

If the material is swallowed, get immediate medical attention or advice.

First Aid: Inhalation

Move subject to fresh, non-contaminated air.

*** Section 5 – Fire and Explosion Hazard Information ***

Flash Point: N/A	
Auto Ignition Temperature:	445° C/830°F to 495°C/920°F
Upper Explosion Limit (%):	N/A
Lower Explosion Limit (%):	N/A
Extinguishing Media:	Carbon dioxide, dry chemical, or water
Fire Protection Equipment:	Wear self-contained, positive pressure breathing apparatus (MSHA/NIOSH approved, or equivalent) and full protective gear.
Unusual Fire and Explosion Hazard:	Product is combustible thermoplastic material that burns vigorously with intense heat

*** Section 6 – Spill or Leak Information ***

N/A

*** Section 7 – Handling and Storage ***

Maximum Storage Temperature:	160°C/320°F.
Storage Measures:	If material is stored under ambient temperature conditions, it is not hazardous. However, extensive storing at higher than the maximum temperature will emit MMA vapors, carbon monoxide or carbon dioxide.
Handling Measures:	Processing of the material under high temperatures will cause hazardous emissions of MMA vapors, carbon monoxide or carbon dioxide. Blower collecting and local exhaust ventilation systems should be installed to prevent contaminant dispersion into the air. Sawing of ClearCore Acrylic Sheet generates particulates regulated as “inert” or “nuisance” dusts. To minimize dust emissions, engineering controls should be employed, such as baghouse filters and cyclone separators.

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*** Section 8 – Exposure Controls / Personal Protection ***

Respiration Protection:	None required under normal conditions. See section 7.
Hand Protection:	Canvas or cotton gloves.
Eye Protection:	Safety glasses with side shields (ANSI Z87.1 equivalent).
Ventilation:	Local exhaust ventilation systems should be constructed and installed in accordance with ANSI Z9.2 or ACGIH guidelines to control potential emissions near the source.

*** Section 9 – Physical & Chemical Properties ***

Appearance: Multi-colored	Odor: None
Physical State: Solid	pH: NA
Vapor Pressure: ND	Vapor Density: N/A (Air=1)
Boiling Point: N/A	Melting Point: N/A
Solubility (H2O) N/A	Specific Gravity: 1.18 – 1.19 (water = 1)
Evaporation Rate: N/A (Butyl Acetate = 1)	VOC: ND
Octanol/H2O Coeff: ND	Flash Point: ND
Flash Point Method: ND	Upper Flammability Limit: ND
Lower Flammability Limit: ND (LFL): ND	UFL: ND
Auto Ignition: ND	Burning Rate: ND

*** Section 10 – Chemical Stability & Reactivity Information ***

Stability:	Stable.
Conditions to avoid:	Temperatures over 300°C/570°F.
Hazardous Decomposition Products:	Thermal decomposition or combustion may emit methyl methacrylate vapors, carbon monoxide, or carbon dioxide.
Incompatible Compounds:	Acids, bases, and strong oxidizing agents.

*** Section 11 – Toxicological Information ***

Acute Dose Effects

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Carbon black (1333-86-4)
Oral LD50 Rat: >15400 mg/kg; Dermal LD50 Rabbit:>3 g/kg

Styrene (100-42-5)
Inhalation LC50 Rat: 11.8 mg/L/4H; Oral LD50 Rat:1000 mg/kg

Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene (68610-51-5)
Inhalation LC50 Rat: >165 mg/L/1H; Oral LD50 Rat:>200 mg/kg; Dermal LD50 Rabbit:>5010 mg/kg

Titanium dioxide (13463-67-7)
Oral LD50 Rat: >10000 mg/kg

Iron oxide (1309-37-1)
Oral LD50 Rat: >10000 mg/kg

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Polymethyl methacrylate (9010-88-2)
N/D

Poly(methyl methacrylate/butyl acrylate/styrene) (27136-15-8)
N/D

Methyl methacrylate (80-62-6)
N/D

Carcinogenicity
A: General Product Information
No information available for the product.
B: Component Carcinogenicity

Styrene-Butadiene polymer (9003-55-8)
IARC: Supplement 7 [1987], Monograph 19 [1979] (Group 3 (not classifiable))

Polystyrene (9003-53-6)
IARC: Supplement 7 [1987], Monograph 19 [1979] (Group 3 (not classifiable))

Carbon black (1333-86-4)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
NIOSH: potential occupational carcinogen
IARC: Monograph 93 [in preparation], Monograph 65 [1996] (Group 2B (possibly carcinogenic to humans))

Styrene (100-42-5)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Monograph 82 [2002], Monograph 60 [1994] (Group 2B (possibly carcinogenic to humans))

Titanium dioxide (13463-67-7)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
NIOSH: potential occupational carcinogen
IARC: Monograph 93 [in preparation], Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))

Iron oxide (1309-37-1)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Supplement 7 [1987], Monograph 1 [1972] (Group 3 (not classifiable))

Polymethyl methacrylate (9010-88-2)
N/A

Poly(methyl methacrylate/butyl acrylate/styrene) (27136-15-8)
N/A

Methyl methacrylate (80-62-6)
N/A

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*** Section 12 – Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis – Ecotoxicity – Aquatic Toxicity

Carbon Black (1333-86-4)

Test & Species Conditions

24 Hr EC50 Daphnia magna >5600 mg/L

Styrene (100-42-5)

Test & Species Conditions

96 Hr LC50 Pimephales promelas 4.02 mg/L [flow-through]

96 Hr LC50 Lepomis macrochirus 25.05 mg/L [static]

96 Hr LC50 Pimephales promelas 29 mg/L [static]

72 Hr EC50 Selenastrum capricomutum 1.4 mg/L

96 Hr EC50 Selenastrum Capricomutum 0.72 mg/L

48 Hr EC50 Daphnia magna 4.7 mg/L

Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene (68610-51-5)

Test & Species Conditions

96 Hr LC50 oncorhynchus mykiss >0.2 mg/L [semi-static]

72 Hr EC50 Selenastrum >0.2 mg/L

48 Hr EC50 Daphnia magna >0.2 mg/L

*** Section 13 – Disposal Considerations ***

Landfill or incinerate at a facility that complies with local, state and federal regulations.

*** Section 14 – Transportation Information ***

US DOT Information

Shipping Name: Not Regulated

*** Section 15 – Regulatory Information ***

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Styrene (100-42-5)

SARA 313: 0.1% de minimis concentration

CERCLA: 1000 lb final RQ; 454 kg final RQ

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State Regulations

Component Analysis – State
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	MA	MN	NJ	PA	RI
Carbon black	1333-86-4	Yes	Yes	Yes	Yes	Yes	Yes
Styrene	100-42-5	Yes	Yes	Yes	Yes	Yes	Yes
Titanium dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes
Iron oxide	1309-37-1	Yes	Yes	Yes	Yes	Yes	Yes
Polymethyl methacrylate	9010-88-2	No	No	No	No	ND	ND
Poly (methyl methacrylate/butyl acrylate/styrene)	27136-15-8	Yes	No	No	No	ND	ND
Methyl methacrylate	80-62-6	Yes	No	No	Yes	ND	ND

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

Warning! This product contains a chemical known to the state of California to cause cancer.

Component Analysis – WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Carbon black	1333-86-4	1 %
Styrene	100-42-5	0.1 %
Titanium dioxide	13463-67-7	1 %

Labor Awareness

This product as supplied is non-hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). However, under processing conditions it may become a health hazard to employees because MMA vapors and/or particulates could be released. See Section 7 for Storage and Handling Information.

***** Section 15 – Glossary*****

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; NJTSR = New Jersey Trade Secret Registry; PMMA = Polymethyl methacrylate; MMA = Methyl methacrylate; N/A = Not Applicable; ND = No Data; ppm = parts per million (concentration); OSHA = Occupational Safety and Health Administration (Department of Labor); ACGIH = American Conference of Governmental Industrial Hygienists; PEL = Permissible Exposure Limit (time-weighted average); TLV = Threshold Limit Value (time-weighted average); STEL = Short-Term Exposure Limit

Other Information

The information presented herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial and local laws.