


Safety Data Sheet

1. Identification

Product Name	ADX-5023 (All color codes)	
Product Description	Talc-filled, Impact-modified Polypropylene compound	
Physical Appearance	Colored solid plastic pellets, approximately 1/8" – 3/8" (3mm – 10mm) in diameter, with slight to no odor	
Recommended Use	Injection molding. Intended for commercial use only.	
Manufacturer	Advanced Composites, Inc. www.advcmp.com	
Telephone Number	+1 (937) 575-9800	
Address	Ohio Plant 1062 S. 4th Ave. Sidney, OH 45365	Tennessee Plant 3066 Sidco Drive Nashville, TN 37204
24 HR. Emergency Contact Number	CHEMTREC (USA) +1 (800) 424-9300	

2. Hazard(s) Identification

Emergency Overview	
Hazard Classification (GHS-US)	Not classified as hazardous.
Pictograms	
Signal Word	WARNING
Hazards	Spilled pellets pose a slip hazard. Dust accumulation may cause explosions. High temperature processing fumes may be irritating to the eyes, nose, throat, and skin. May contain quartz and carbon black. Quartz dust has caused cancer and lung disease in workers that inhale it over an extended period of time. Animal studies suggest that carbon black may cause lung cancer through inhalation. However, inhalation of quartz or carbon black dust from this product is not deemed likely due to the plastic resin form.
Precautionary Statement	Maintain adequate ventilation to prevent accumulation of dust and fumes from processing. Dust created during handling or processing may be mildly irritating to the respiratory system. Keep away from sources of ignition. In solid form, this polymer product is not considered to be a health hazard, although the pellets and the dust generated from them may be mildly irritating to the skin and eyes by mechanical action. If swallowed, polymer may pose possible intestinal obstruction.
Irritancy	When heated, this polymer may release fumes and/or vapors that are irritating to the eyes, nose, throat, and skin. Overexposure to fumes or vapors may also cause headache, nausea, shortness of breath, and cough.

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3. Composition/Information on Ingredients

Component(s)	CAS Registry #	Weight %
Ethylene-propylene-copolymer	9010-79-1	†
Talc (Magnesium Silicate)	14807-96-6	†
Quartz (Crystalline silica, component of talc)	14808-60-7	≤ 1.0
Carbon Black (Pigment)	1333-86-4	†
Chromium oxide, Cr ₂ O ₃ (Pigment)	1308-38-9	†
Titanium Dioxide, TiO ₂ (Pigment)	13463-67-7	†

† Proprietary information

Comments The listed components (if present in this product) are encapsulated in a thermoplastic resin with limited release under normal conditions of use, transportation, and storage. Increased release may occur when the resin (or material/product manufactured from it) is subject to grinding, polishing, excessive heat, or other processes which enhance the potential for the generation of particulates, fumes, and/or vapors. A qualified health specialist should evaluate the specific potential for release under user's conditions of handling of this material.

4. First-Aid Measures

Most Important Effects Molten plastic can cause severe thermal burns.

First Aid

Skin Contact	If skin irritation or rash occurs, rinse or wash affected areas. Seek medical advice/attention if irritation persists. If contacted by molten polymer, cool immediately with cold or ice water. Do not attempt removal of any solidified material without medical assistance. Get medical attention immediately. In the case of most burns, it may be advisable to allow solidified material to slough off on its own. Attempted removal may lead to more damage of the skin and underlying tissue. If removal is indicated (e.g. solidified material is located on a critical part of the hand or face), removal with mineral oil is recommended.
Eye Contact	If contacted by molten polymer, immediately flush eyes with plenty of cool water for at least 15 minutes. Do not rub eyes. Get medical attention immediately.
Ingestion	If product is ingested, contact a physician or the Poison Control Center as appropriate whenever any foreign object is swallowed. Rinse mouth. Do NOT induce vomiting.
Inhalation	If irritation or dizziness occurs, evacuate to fresh air and remain at rest in a comfortable position for breathing. Seek medical advice/attention.

Acute and Delayed Effects

Skin Contact	Prolonged exposure may cause irritation, rash, or allergic skin reaction. Wash hands, other exposed areas, and clothing regularly. Seek medical advice if conditions persist.
Eye Contact, Inhalation	Dust and fumes may cause irritation to the eyes, nose, throat, and lungs. Flush eyes with water or get to fresh air. Seek medical attention if irritation persists.

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Ingestion

May cause intestinal obstruction.

5. Fire-Fighting Measures

Flammable Properties

Flammable Class

Class 1 – Must be heated to burn

Please use caution when handling material near open flame. Material will ignite when exposed to direct flame, but will not burn readily.

Flash Point

Not established.

Autoignition Temperature

>280°C (>536°F), ASTM E659

Protective Equipment for Firefighters

Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full-face piece when there is a possibility of exposure to smoke, fumes, or hazardous decomposition products.

Suitable Extinguishing Media

- ✓ Water spray
- ✓ Dry chemical
- ✓ Foam
- ✓ Carbon dioxide

Fire Fighting Procedures

If possible, water should be applied as a spray from a fogging nozzle since this polymer is a surface burning material. The application of high velocity water will spread the burning layer.

NOTE: Individuals should perform only those fire-fighting procedures for which they have been trained.

Hazardous Combustion Products

Carbon, oxides of carbon, oxides of nitrogen, water, acrolein, formaldehyde, other aldehydes, ketones, alcohols, fatty acids, methane, ethane, acetylene, other organic vapors and fumes.

6. Accidental Release Measures

Personal Precautions

Restrict access to only authorized personnel wearing appropriate personal protective equipment. Spilled pellets pose a slip hazard.

Environmental Precautions

Keep spilled material away from heat, sparks, and open flames. Ensure adequate ventilation.

Protective Equipment

Wear safety glasses meeting the specifications of OSHA 29CFR 1910.133/ ANSI Standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specifications of OSHA 29CFR 1019.133/ ANSI Standard Z87.1 should be worn whenever there is a possibility of contact with the eyes.

General Procedures

Where spills are possible, a comprehensive spill release response plan should be developed and implemented. Plastic pellets are listed as “significant materials” by US EPA (40CFR 122.26(b)(12)) and may need to be discussed in an application for a storm water discharge permit.

Small Spill

Small spills can be swept up and recycled or disposed of.

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Large Spill

Wear appropriate respiratory protection and protective clothing as described in Section 8. Contain spilled material. Transfer to secure containers. In the event of an uncontrolled release of this material, the user should determine if the release is reportable under the applicable laws and regulations.

7. Handling & Storage

Handling

The handling of pellets in both loading and unloading operations as well as fabrication may cause dust to be formed and necessary precautions for personal protection (see Section 8) should be taken. When transferring pellets, precautions such as grounding and bonding can prevent the buildup of static electricity.

Safe Storage

Store in a dry place away from moisture, excessive heat, and sources of ignition. Have emergency equipment for fires and spills readily available.

Incompatible Materials

Do not store with strong oxidizing agents such as nitric acid, sulfuric acid, halogens, hydrogen peroxide, and chlorinating agents.

Hygiene

Wash hands before eating, drinking, smoking, or using the restroom

Further Advice

Keep containers closed and/or covered when not in use.

8. Exposure Controls & Personal Protection

Engineering Controls

Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment

Skin

Wear heat protective gloves and clothing if there is a potential for contact with heated material.

Eyes and Face

Wear safety glasses meeting the specifications of OSHA 29CFR 1910.133/ ANSI Standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specifications of OSHA 29CFR 1019.133/ ANSI Standard Z87.1 should be worn whenever there is a possibility of contact with the eyes.

Respiratory

Use a NIOSH-approved respirator whenever exposure may exceed established Occupational Exposure Limits.

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Occupational Exposure Limits

Component	Classification	Exposure Limit
Talc (Magnesium Silicate) (14807-96-6)	ACGIH TWA	2 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
	ACGIH Category	Not classifiable as a Human Carcinogen containing no asbestos fibers
	NIOSH IREL (TWA)	2 mg/m ³ (containing no asbestos and <1% quartz-respirable dust)
	ILDH	1,000 mg/m ³ (containing no asbestos and <1% quartz)
Quartz (Crystalline Silica) (14808-60-7)	ACGIH TWA	0.025 mg/m ³ (respirable fraction)
	ACGIH Category	A2 – Suspected Human Carcinogen
	NIOSH REL (TWA)	0.05 mg/m ³ (respirable dust)
	IDLH	50 mg/m ³ (respirable dust)
	OSHA PEL (STEL)	250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2
Carbon Black (1333-86-4)	ACGIH TWA	3.5 mg/m ³ (respirable fraction)
	ACGIH Category	Confirmed animal carcinogen with unknown relevance to humans
	NIOSH REL (TWA)	3.5 mg/m ³ 1.5 3.5 mg/m ³ (Carbon black in presence of Polycyclic aromatic)
	US IDLH	1750 mg/m ³
	OSHA TWA	3.5 mg/m ³
Chromium oxide (Cr₂O₃) (1308-38-9)	ACGIH TWA	0.05 mg/m ³ 0.5 (Cr II & Cr III Compounds) 0.05 (Cr VI Water Soluble)
	OSHA PEL (TWA)	1 (metal) 0.5 (Cr II & Cr III Compounds) 0.005 (Cr VI Compounds)
Titanium dioxide (TiO₂) (13463-67-7)	OSHA TWA	15 mg/m ³ Total dust
	ACGIH TWA	10 mg/m ³
	NIOSH IDLH	5,000 mg/m ³

9. Physical & Chemical Properties

Appearance	Colored plastic pellets, approximately 1/8" – 3/8" (3mm – 10mm) in diameter
Odor	Slight to no odor
pH	Not applicable
Melting Point	160~205°C (320~401°F)
Boiling Point	None
Flash Point	No data available
Evaporation Rate	No data available
Flammability	Will ignite when exposed to direct flame, but will not burn readily.
Upper/Lower Explosive Limit	Not explosive
Vapor Pressure	No data available
Vapor Density	No data available

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Relative Density	0.89 – 1.30
Water Solubility	Not soluble
Auto-ignition Temperature	>280°C (>536°F), ASTM E659
Decomposition Temperature	No data available
Viscosity	Not applicable

The physical property data above are typical values and should not be construed as a product specification.

10. Stability & Reactivity

Reactivity	Stable under recommended storage conditions (See Section 7)
Conditions to Avoid	Avoid excessive heat, sparks, or open flame. Keep away from strong oxidizing agents.
Materials to Avoid	May burn or react violently with fluorine/oxygen mixtures with 50~100% fluorine.
Chemical Stability	May be decomposed by strong oxidizing agents such as nitric acid, sulfuric acid, halogens, hydrogen peroxide, and chlorinating agents.
Hazardous Polymerization	Not likely under recommended storage conditions.
Hazardous Decomposition	Combustion may produce carbon, oxides of carbon, oxides of nitrogen, water, acrolein, formaldehyde, other aldehydes, ketones, alcohols, fatty acids, methane, ethane, acetylene, other organic vapors and fumes.

11. Toxicological Information

Primary Route(s) of Exposure Eye and Skin Contact

Potential Health Effects

Eye Contact	May cause irritation from mechanical abrasion.
Skin	Pellets not expected to cause skin irritation. Contact with molten material may cause thermal burns.
Inhalation	Not a likely route of exposure. Process fumes may cause irritation.
Ingestion	May pose a choking hazard if swallowed.
Immediate Effects	Exposure during handling and processing may aggravate disorders of the eyes, skin, gastrointestinal tract, and respiratory system.
Delayed Effects	There is no information on the long term health effects of exposure to this product or the fumes and dust that may result from the handling and processing of it.

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Acute Toxicity	Component	Measured Toxicity
	Carbon Black (1333-86-4)	LD50: > 8000 mg/kg (Oral, Rat)
	Chromium Oxide (Cr₂O₃) (1308-38-9)	ATE: 100.00 mg/kg body weight (Oral) ATE: 1.50 mg/l/4h (Dust/Mist)
	Titanium Dioxide (13463-67-7)	LD50: > 5000 mg/kg (Oral, Rat) LC50: > 6.82 mg/L (Inhaled Dust/Mist, Male Rat)
	Quartz (14808-60-7)	LD50: > 5000 mg/kg (Oral, Rat) LD50: > 5000 mg/kg (Dermal, Rat)
Carcinogenicity	OSHA, IARC, and NTP have listed carbon black (pigment used in dark colors) and quartz (crystalline silica, naturally occurring in talc in low percentages) as known human carcinogens. Titanium dioxide and chromium oxide have been identified as suspected or confirmed human carcinogens. These components are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions.	
Reproductive Toxicity	Not classified	
Medical Conditions Aggravated	There are no known medical conditions aggravated by exposure to this product. However, certain sensitive individuals with respiratory impairments may be affected by exposure to components in the processing emissions.	

12. Ecological Information

Ecotoxicity	No data is available on the adverse environmental effects of this product. Ecotoxicity is expected to be low due to the limited water solubility of polymers. However, birds, fish, and other wildlife may eat pellets that may obstruct their intestinal tracts.
Persistence and degradability	This material is generally inert and insoluble and is not expected to have any adverse effect on the environment. This material may deteriorate by a number of mechanisms including photo- and thermo-oxidative degradation. Photodegraded polymers are also more easily biodegraded.
Bioaccumulation potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available.

13. Disposal Considerations

Product Disposal	All recovered material should be packaged, labeled, transported, and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.
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14. Transport Information

This product is NOT regulated as a hazardous material/dangerous good for all forms of transportation

In Accordance with DOT	Not regulated for transport
In Accordance with IMDG	Not regulated for transport
In Accordance with IATA	Not regulated for transport
UN Number	None
UN Proper Shipping Name	None
Transport Hazard Class(es)	None
Packing Group	None
Special precautions to be aware of or comply with	None

15. Regulatory Information

United States

SARA TITLE III (Superfund Amendments and Reauthorization Act)*

Fire	No
Pressure	No
Reactivity	No
Acute	No
Chronic	No
302/304	This product does not contain chemicals regulated under SARA 302/304.
311/312 Hazard Categories	This product does not meet the criteria of any SARA hazard categories.
313 Toxic Release	This product does not contain any chemicals listed under SARA 313.

* **Title III Notes:** This product contains no SARA "toxic chemicals" above threshold levels.

State Regulations

California

Known to the state of California to cause cancer:

CAS Registry	Component
1333-86-4	Carbon Black (Airborne, unbound particles of respirable size)*
14808-60-7	Quartz (Airborne particles of respirable size)*

* **Note:** The listed component(s) contained in this compound (if any) are encapsulated in a thermoplastic resin with limited release under normal conditions of use, transportation, and storage. See Section 3 for comments on content and release.

