Offer Sheet

Product	Polymeric modifier / impact modifier (polypropylene copolymer)
Quantity	Can be packaged into 1,500lb gaylord boxes
Net weight	35, 720 lbs.
Manufacture date	
Availability	One time
Location	Grove City, OH 43123
Date	1/16/26
COA & SDS	Attached below

Contaminant: A bulk trailer was not washed between loading this white pp and the previous product black pp. Issue discovered during loading process. Loading halted and material was isolated into a clean silo. Trailer was empty when loading started, contaminant present would likely be very minimal. Estimating <5lbs.

Brian Svrusis
Solvent Systems International
575 Bennett Road
Elk Grove Village, IL 60007
847-323-6718 call or text
Click here for: Surplus Inventory
Solvent-Systems.com

Adflex **KS 021 P** is typically used as a **polymeric modifier / impact modifier** (and in some cases also contributes flexibility and toughness) in plastic formulations. Commercially, it's most often applied anywhere manufacturers need a **balance of stiffness + toughness + processability**.

Commercial uses for Adflex KS 021 P

1) Impact modification (toughening agent)
Used to **increase impact strength** and reduce brittleness in:
- rigid molded parts
- thin-wall molded parts
- extruded profiles and sheet

Common end products:
- housings, casings, covers
- containers and rigid packaging components
- automotive plastic parts (non-structural)

---

2) Flexibility / ductility enhancement
Used when a polymer or blend needs to be **less brittle and more ductile**, especially at lower temperatures.
Typical applications:
- consumer durable goods
- storage bins, tubs, lids
- components requiring snap-fit durability

---

3) Polymer blend compatibilization / performance balancing
Often included in **multi-polymer blends** to help:
- improve toughness without over-softening
- improve dispersion of phases in blends
- reduce cracking / stress whitening

Typical manufacturing scenarios:
- custom compounding
- masterbatch formulation

---

4) Injection molding performance improvement
In injection molding formulas, it can help:
- reduce part cracking during demolding
- reduce breakage in drop tests
- improve toughness in weld lines / knit lines

Industries:
- household goods
- industrial components
- closures and caps

---

5) Extrusion & thermoforming applications
In sheet and extrusion applications, often used to:
- improve toughness of extruded sheet
- reduce edge cracking
- improve forming behavior in thermoformed parts

End markets:
- packaging trays, lids, clamshell-type components
- industrial formed sheet applications

---

6) Rigid packaging and containers
Used to improve:
- drop impact performance
- stress crack resistance
- overall durability in handling/shipping

Examples:
- pails and containers
- caps, closures
- rigid food/non-food packaging components

---

7) Automotive / transportation plastics
Used where parts need to resist:
- cracking from vibration and mechanical abuse
- impacts at varying temperatures

Examples:
- interior trim components
- under-hood non-structural components
- protective covers / guards

Equistar Chemicals, LP.,
a LyondellBasell Company
2800 Post Oak Blvd., Suite 5100
Houston, TX 77056 USA
Tel: +1-800-545-7719
Fax: +1-877-527-1394

CONFIDENTIAL CERTIFICATE OF ANALYSIS

Date Shipped	Aug 19, 2025
Bill of Lading No.	8109170977
Order No.	5013199955
Cust. Order No.	4700578039

Type Adflex KS 021 P, BULK
Vehicle No. EQUX19754
Cust. Part No. 0000000000103731429

This product is approved to: Fiat Chrysler MS-DB590 CPN 3900; Ford WSS M4D777-A8; GM GMW15702-170020. This certificate of analysis provides a flammability test result with the test date intended to serve as the annual flammability certificate.

Batch/Lot EG25BAF02 / Quantity (Est.) 192,100 LBS

Test	Units	Specification Min	Specification Max	Value
Melt Flow Rate, 230/2.16	g/10 min	0.40	1.10	0.86
Color, YI of Plaques, 3.2 mm thick			2.0	-1.0
Tensile Stress at Yield, 50mm/min, ISO	MPa	7.3	10.0	8.4
Flexural Modulus, Chord, 2 mm/min, ISO	MPa	250	450	338
MA Impact Peak Force Energy, 23C 6.6 m/s	Joule	15.0	25.0	17.0
MA Impact Peak Force Energy -40C 6.6 m/s	Joule	18.0	32.0	25.7
Flammability ISO 3795 TestDate 2/10/2025	mm/min		100	18

Delivery Number:

Cust/PO Number:

Send To:

At:
NexeoPlasticsOrderFulfillment@nexeoplastics.com
ATurner@nexeoplastics.com
SAPCOA@NEXEOPLASTICS.COM

Approved By Quality Assurance

BJ5H-MF

Advanced Composites
Mitsui Chemicals Group

Safety Data Sheet

1. Identification

Product Name	BJ5H-MF (All color codes)	
Product Description	Impact-modified Polypropylene compound	
Physical Appearance	White, translucent, or a mixture of white and 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 carbon black. Animal studies suggest that carbon black may cause lung cancer through inhalation. However, inhalation of 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.

3. Composition/Information on Ingredients

Component(s)	CAS Registry #	Weight %
Ethylene-propylene-copolymer	9010-79-1	†
Carbon Black (Pigment)	1333-86-4	†
Chromium oxide, Cr_2O_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.
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.

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.

Occupational Exposure Limits

Component	Classification	Exposure Limit
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 (Cr_2O_3) (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 (TiO_2) (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	Plastic pellets, approximately 1/8" – 3/8" (3mm – 10mm) in diameter
Color	Mixture of white and colored pellets
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
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.

Acute Toxicity

Component	Measured Toxicity
Carbon Black (1333-86-4)	LD50: > 8000 mg/kg (Oral, Rat)
Chromium Oxide (Cr_2O_3) (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)

Carcinogenicity	OSHA, IARC, and NTP have listed carbon black, titanium dioxide and chromium oxide 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.

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)*

* 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.

Massachusetts
New Jersey
Pennsylvania

May contain the following chemicals listed as "Right to Know" in these states:

CAS Registry	Component
1333-86-4	Carbon Black*
1308-38-9	Chromium Oxide*
13463-67-7	Titanium Dioxide*

* 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.

International Regulation

All ingredients of this compound are listed on the following inventories or are exempt from listing:

Country	Notification Listing
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
United States	TSCA

General Comments	The regulatory information presented here should not necessarily be considered as all-inclusive. Other local, state, federal, and international regulations may also apply.

16. Other Information

Revision Date	October 28, 2020
Prepared By	Advanced Composites, Inc.

Manufacturer Disclaimer

The information presented herein has been obtained from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, Advanced Composites Inc., or others, Advanced Composites Inc. does not guarantee the accuracy, adequacy, or completeness of any information, and is not responsible for any errors or omissions or for any results obtained from the use of such information. We assume no liability or responsibility, expressed or implied, for errors or omissions of any kind, and no warranties or merchantability or fitness, expressed or implied, is made or is to be implied. Consequently, each user should review the information to determine whether it is adequate and appropriate to all aspects of your intended use of this material.

END OF DOCUMENT

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name	:	Adflex KS 021 P
CAS Number:	:	9010-79-1
Chemical characterization	:	Polypropylene copolymer
Chemical name	:	1-Propene, Polymer with Ethene
Synonyms	:	Ethylene-Propylene copolymer, 1-Propene-Ethylene-Copolymer
Identified uses	:	Manufacture of plastic articles by injection molding, extrusion or other conversion process.
Prohibited uses	:	FDA Class III medical devices; European class III medical devices; Health Canada class IV Medical Devices; Applications involving permanent implantation into the body; Life-sustaining medical applications

Company Address
Equistar Chemicals, LP
LyondellBasell Tower, Suite 300
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Company Telephone
Customer Service 888 777-0232
product.safety@lyb.com

Emergency telephone number
EQUISTAR 800-245-4532

E-mail address : product.safety@lyb.com
Responsible/issuing person

2. HAZARDS IDENTIFICATION

GHS Classification

Combustible dust

Label elements

Signal word : Warning

Hazard Statements : If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Other hazards

No additional information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Components

Chemical name	CAS-No.	Weight %
1-Propene, Polymer with Ethene	9010-79-1	> 99.5 %

Contains: Additives and stabilizers

4. FIRST AID MEASURES

General advice : Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
In case of excessive inhalation of fumes that may be generated during heating of this material, move the person to fresh air.
Obtain medical attention.
Keep person warm, if necessary give Cardio-Pulmonary Resuscitation (CPR)

In case of skin contact : If molten material contacts the skin, immediately flush with large amounts of water to cool the affected tissue and polymer.
Do not attempt to peel polymer from skin as this will remove the skin.
Obtain immediate emergency medical attention if burn is deep or extensive.

In case of eye contact : Flush eyes thoroughly with water for several minutes and seek medical attention if discomfort persists.

: In case of eye contact with molten polymer:
Continuously flush eye(s) with cool running water for at least 15 minutes.
Beyond flushing, DO NOT attempt to remove the material adherent to the eye(s).
Immediately seek medical attention.

If swallowed : Adverse health effects due to ingestion are not anticipated.

Notes to physician

Symptoms	:	Inhalation of process fumes and vapors may cause soreness in the nose and throat and coughing.
Hazards	:	Dust contact with the eyes can lead to mechanical irritation. Molten polymer may cause thermal burns.
Treatment	:	Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	SMALL FIRE: Use dry chemical, CO2, or water spray.
	:	LARGE FIRES: Use water spray hose nozzles from a safe location.
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Keep away from heat and sources of ignition. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Special protective equipment for fire-fighters	:	Wear approved positive pressure self-contained breathing apparatus and firefighter protective clothing.
Further information	:	Combustible particulate solid, will decompose under fire conditions. Calorific Value: 8000 - 11000 kcal/kg Fight fire from safe distance with hose lines or monitor nozzles. Heat from fire may melt, decompose polymer, and generate flammable vapors. Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container. Always stay away from tanks engulfed in fire. Do not attempt to get on top of storage containers involved in fire. Cool storage containers with large volumes of water even after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Equip responders with proper protection. Creates dangerous slipping hazard on any hard smooth surface. Equip emergency responders with proper personal protective equipment (PPE) Avoid generating dust. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Potential combustible dust hazard. Polymer particles create slipping hazard on hard smooth surfaces.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system.
Methods for containment / Methods for cleaning up	:	On land, sweep/shovel into suitable disposal containers or vacuum using equipment which avoids ignition risk. On water, material is insoluble; collect and contain as any solid. 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.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	:	Material is in a pellet form. If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air. Avoid dust accumulation in enclosed space. Use dust collection systems designed per NFPA 654 to avoid dust accumulation. Avoid generating dust; fine dust suspended in air and in the presence of an ignition source is a potential dust explosion hazard. Static discharge (spark), or other ignition sources, in high dust environments may ignite the dust and result in a dust explosion Electrostatic charge may build during conveying or handling.

Equipment handling polymer should be conductive and grounded (earthed) and bonded.
Metal containers involved in the transfer of this material should be grounded and bonded.
All electrical equipment should conform to applicable electric codes and regulatory requirements for areas handling combustible dusts.
After handling, always wash hands thoroughly with soap and water.
When bringing the material to processing temperatures vapors may develop may condense in the exhaust ventilation. See section 10.
Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

Fire-fighting class : Polymer will burn but does not easily ignite.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a dry location.
Use good housekeeping practices during storage, transferring and handling. Process enclosures and adequate ventilation should be used to avoid excessive dust accumulation.
Store away from excessive heat and away from strong oxidizing agents.
Keep container closed to prevent contamination.
Take measures to prevent the build up of electrostatic charge.

Specific end use(s)

: See Section 1.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Ingredients with workplace control parameters

Occupational Exposure Limits

Components	CAS-No.	Type	Limit Value	Basis Revision Date	Additional Information
Materials that can be formed when handling this product: Non-specified (inert or nuisance) dust		TWA	10 mg/m3 inhalable	US (ACGIH) 2005	

Materials that can be formed when handling this product: Non-specified (inert or nuisance) dust		TWA	3 mg/m3 respirable	US (ACGIH) 2005	
Materials that can be formed when handling this product: Non-specified (inert or nuisance) dust		TWA	15 mg/m3 total dust	US (OSHA) 2005	
Materials that can be formed when handling this product: Non-specified (inert or nuisance) dust		TWA	5 mg/m3 respirable	US (OSHA) 2005	

Consult local authorities for acceptable exposure limits.

Exposure controls

Engineering measures

Follow the recommendations in NFPA 654 (as amended and adopted) for equipment used to handle this product.
Engineering controls, i.e. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used.
Equipment and vessels handling combustible dust from this material should be designed to either prevent dust explosions (inerting) or safely vent dust explosions per NFPA 654
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal protective equipment

Respiratory protection : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Use appropriate respiratory protection where atmosphere exceeds recommended limits.
Where workers could be exposed to dust concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection : Wear gloves that provide thermal protection where there is a potential for contact with heated material.

Eye and face protection : Dust service goggles should be worn to prevent mechanical

injury or other irritation to eyes due to airborne particles which may result from handling this product.

Skin and body protection : Wear suitable protective clothing.

Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.
Use good personal hygiene practices.
Wash hands before eating, drinking, smoking, or using toilet facilities.
Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Pellets.
Color	:	Translucent to white
Odor	:	Slight.
Odor Threshold	:	No value available.
Flash point	:	No Data Available.
Lower explosion limit	:	The minimum explosive concentration (MEC) for polymer dust varies according to particle size distribution.
Upper explosion limit	:	Not applicable.
Flammability (solid, gas)	:	Polymer will burn but does not easily ignite.
Oxidizing properties	:	Not considered an oxidizing agent.
Autoignition temperature	:	> 300 °C
Decomposition temperature	:	not determined
Melting point/range	:	50 - 170 °C
Boiling point/boiling range	:	Not applicable.
Vapor pressure	:	Not applicable.
Density	:	< 1 g/cm3
Water solubility	:	Insoluble.

Partition coefficient: n-octanol/water	:	No Data Available.
Viscosity, dynamic	:	Not applicable.
Relative vapor density	:	Not applicable.
Evaporation rate	:	Not applicable.
Explosive properties	:	No Data Available.
Other Information	:	No additional information available.

10. STABILITY AND REACTIVITY

Reactivity	:	No known reactivity hazards.
Chemical stability	:	Stable under normal conditions.
Hazardous reactions	:	Will not occur.
Conditions to avoid	:	Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Materials to avoid	:	Material may be softened by some hydrocarbons.
Hazardous decomposition products	:	Not expected to decompose under normal conditions.
Thermal decomposition	:	Carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity	:	Not classified
Acute inhalation toxicity	:	Not classified
Acute dermal toxicity	:	Not classified
Skin corrosion/irritation	:	Not a skin irritant.
Serious eye damage/eye irritation	:	Not an eye irritant. Mechanical irritation is possible.

Respiratory or skin sensitization	:	Not classified
Chronic toxicity		
Carcinogenicity	:	Not classified Not classified Not listed by IARC, NTP, OSHA or EPA.
Germ cell mutagenicity	:	Not classified
Reproductive toxicity		
Effects on fertility / Effects on or via lactation	:	Not classified
Effects on Development	:	Not classified
Target Organ Systemic Toxicant - Single exposure	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Target Organ Systemic Toxicant - Repeated exposure	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard	:	Not applicable.

12. Ecological information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard	:	Not classified
Long-term (chronic) aquatic hazard	:	Not classified

Persistence and degradability

Biodegradability	:	Not expected to be biodegradable.

Bioaccumulative potential

Bioaccumulation : This material is not expected to bioaccumulate.

Mobility in soil

Mobility : no data available

Other adverse effects

Environmental fate and pathways : This material is not volatile and insoluble in water.

Other information

Additional ecological information : Ecotoxicity is expected to be minimal based on the low water solubility of polymers.
No data available on this product. However, birds, fish and other wildlife may eat pellets which may obstruct their intestinal tracts.

13. Disposal considerations

Waste treatment methods

Product : 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.
Recycle if possible.

: This material is classified as a Non-hazardous Material by RCRA.

14. TRANSPORT INFORMATION

Not regulated for transport

15. REGULATORY INFORMATION

TSCA 12b

No substances are subject to TSCA 12(b) export notification requirements.

Significant New Use Rules (SNUR)

No substances are subject to a Significant New Use Rule.

SARA 302/304

This product contains no known chemicals regulated under SARA 302/304.

SARA 311/312

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Combustible dust

SARA 313

This product contains no known chemicals regulated under SARA 313.

State Reporting

This material does not contain listed substance(s) known to the State of California to cause cancer, birth defects, or other reproductive harm that would require warning under the California Proposition 65 State Drinking Water and Toxic Enforcement Act.
However, LyondellBasell has not tested for the presence of listed chemical substances.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

Other international regulations

Global Inventory Status
The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant

Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant
Taiwan	TCSCA	Compliant

REACh status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that all substances in this preparation have been registered under REACh, in accordance with the deadlines set forth in REACh. (Regulation (EU) No. 1907/2006)

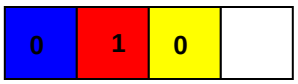
Contact product.safety@lyb.com for additional global inventory information.

16. OTHER INFORMATION

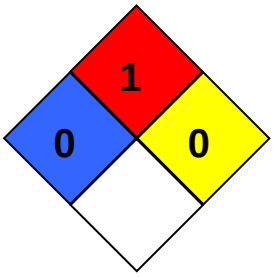
Material safety datasheet sections which have been updated:

Revised Section(s): 15 16

HMIS Classification : Health Hazard: 0
Flammability: 1
Physical hazards: 0



NFPA Classification : Health Hazard: 0
Fire Hazard: 1
Instability: 0



Further information

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)
NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

Disclaimer

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The Trade Name referenced in section 1 is a trademark owned or used by the LyondellBasell family of companies.

Numerical Data Presentation

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.

End of Material Safety Data Sheet