

SAFETY DATA SHEET



PEBAX® 4533 SP 01

1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Specialty Polyamides

Customer Service Telephone Number: (800) 932-0420
(Monday through Friday, 8:00 AM to 5:00 PM EST)

Emergency Information

Transportation: CHEMTREC: (800) 424-9300
(24 hrs., 7 days a week)
Medical: Rocky Mountain Poison Center: (866) 767-5089
(24 hrs., 7 days a week)

Product Information

Product name: PEBAX® 4533 SP 01
Synonyms: Not available
Molecular formula: Mixture
Chemical family: Polyether block amides
Product use: Mouldings and Extrusion

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview

Color: colorless
Physical state: solid
Form: pellets
Odor: odourless

***Classification of the substance or mixture:**

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Chronic aquatic toxicity, Category 3, H412

*For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling**Hazard statements:**

H412 : Harmful to aquatic life with long lasting effects.

Product code: A07533

Version 1.2

Issued on: 08/29/2024

Page: 1 / 11

PEBAX® 4533 SP 01

Supplemental Hazard Statements:

Processing may release vapors and/or fumes which cause eye, skin and respiratory tract irritation.

Precautionary statements:

Prevention:

P273 : Avoid release to the environment.

Disposal:

P501 : Dispose of contents or container to an approved waste disposal plant.

Supplemental information:

Potential Health Effects:

The product, in the form supplied, is not anticipated to produce significant adverse human health effects. Contains high molecular weight polymer(s). Effects due to processing releases: Irritating to eyes, respiratory system and skin. Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness, (severity of effects depends on extent of exposure).

Other:

Handle in accordance with good industrial hygiene and safety practice. (pellets/granules) This product may release fume and/or vapor of variable composition depending on processing time and temperature.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS
--

Chemical name	CAS-No.	Wt/Wt	GHS Classification**
Proprietary polymer	Proprietary*	<= 100 %	Not classified
Proprietary Component	Proprietary*	< 0.1 %	H302, H372, H410

*The specific chemical identity is withheld because it is trade secret information of Arkema Inc.

PEBAX® 4533 SP 01

**For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1. Description of necessary first-aid measures:****Inhalation:**

If inhaled, remove victim to fresh air.

Skin:

In case of contact, immediately flush skin with plenty of water. If molten polymer gets on the skin, cool rapidly with cold water. Do not peel solidified product off the skin. Obtain medical treatment for thermal burns. Remove material from clothing. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:

Immediately flush eye(s) with plenty of water. Obtain medical treatment for thermal burns.

Ingestion:

If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed:

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Statements and Supplemental Information if applicable) and Section 11 (Toxicology Information) of this SDS.

4.3. Indication of any immediate medical attention and special treatment needed:

Unless otherwise noted in Notes to Physician, no specific treatment noted; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES**Extinguishing media (suitable):**

Water spray, Carbon dioxide (CO₂), Foam

Protective equipment:

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Further firefighting advice:

Do not allow run-off from fire fighting to enter drains or water courses.
Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:

When burned, the following hazardous products of combustion can occur:

Carbon oxides

Hydrogen cyanide (hydrocyanic acid)
(traces)

Hazardous organic compounds

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, Emergency procedures, Methods and materials for containment/clean-up:

Prevent further leakage or spillage if you can do so without risk. Ventilate the area. Sweep up and shovel into suitable properly labeled containers for prompt disposal. Possible fall hazard – floor may become slippery from leakage/spillage of product. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Protective equipment:

Appropriate personal protective equipment is set forth in Section 8.

SECTION 7: HANDLING AND STORAGE

Handling

General information on handling:

Avoid breathing dust.

Avoid breathing processing fumes or vapors.

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing.

Storage

General information on storage conditions:

Keep in a dry, cool place. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Store away from moisture and heat to maintain the technical properties of the product.

Storage stability – Remarks:

Stable under recommended storage conditions.

Storage incompatibility – General:

Strong acids

Strong oxidizing agents

Temperature tolerance – Do not store above:

140 °F (60 °C)

PEBAX® 4533 SP 01

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Particles Not Otherwise Specified / Nuisance Dust (Proprietary)

US. ACGIH Threshold Limit Values

Form:	Respirable particles.
Time weighted average	3 mg/m ³
Form:	Inhalable particles.
Time weighted average	10 mg/m ³

US. OSHA Table Z-3 (29 CFR 1910.1000)

Form:	Respirable fraction.
Time weighted average	15millions of particles per cubic foot of air

US. OSHA Table Z-3 (29 CFR 1910.1000)

Form:	Total dust
Time weighted average	50millions of particles per cubic foot of air

US. OSHA Table Z-3 (29 CFR 1910.1000)

Form:	Respirable fraction.
Time weighted average	5 mg/m ³

US. OSHA Table Z-3 (29 CFR 1910.1000)

Form:	Total dust
Time weighted average	15 mg/m ³

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Respiratory protection:

Product code: A07533

Version 1.2

Issued on: 08/29/2024

Page: 5 / 11

PEBAX® 4533 SP 01

Avoid breathing dust. Avoid breathing processing fumes or vapors. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components and substances released during processing. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:

Processing of this product releases vapors or fumes which may cause skin irritation. Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after contact with processing fumes or vapors. Wash thoroughly after handling.

Eye protection:

Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color:	colorless
Physical state:	solid
Form:	pellets
Odor:	odourless
Odor threshold:	No data available
Flash point	No data available
Auto-ignition temperature:	698 - 842 °F (370 - 450 °C) (Method: Standard ASTM D 1929-77 (B))
Lower flammable limit (LFL):	Not applicable
Upper flammable limit (UFL):	Not applicable
pH:	No data available
Density:	No data available
Specific Gravity (Relative density):	No data available
Bulk density:	550 - 650 kg/m3

PEBAX® 4533 SP 01

Vapor density:	No data available.
Boiling point/boiling range:	No data available.
Melting point/range:	No data available.
Freezing point:	No data available.
Evaporation rate:	No data available.
Solubility in water:	68 °F (20 °C) insoluble (on the basis of its structure)
Viscosity, dynamic:	Not applicable
Oil/water partition coefficient:	No data available.
Thermal decomposition:	572 - 842 °F (300 - 450 °C)
Flammability:	See GHS Classification in Section 2 if applicable

SECTION 10: STABILITY AND REACTIVITY**Stability:**

The product is stable under normal handling and storage conditions.

Hazardous reactions:

Hazardous polymerization does not occur.

Materials to avoid:

Strong acids
Strong oxidizing agents

Conditions / hazards to avoid:

Avoid storing in moist and warm conditions. (to maintain the technical properties of the product). See Hazardous Decomposition Products below.

Hazardous decomposition products:

Thermal decomposition giving toxic, flammable, and / or corrosive products:

Carbon oxides
Ammonia
Amino derivatives
Hydrogen cyanide (hydrocyanic acid)
(traces)
Hazardous organic compounds

SECTION 11: TOXICOLOGICAL INFORMATION

PEBAX® 4533 SP 01

Data on this material and/or its components are summarized below.

Data for Proprietary polymer (Proprietary)**Acute toxicity****Oral:**

No deaths occurred. (rat) LD₀ > 4,000 mg/kg.

Skin Irritation:

Not irritating. (rabbit) (4 h)

Eye Irritation:

Causes mild eye irritation. (rabbit)

Skin Sensitization:

Not a sensitizer. Guinea pig maximization test. No skin allergy was observed.

Genotoxicity**Assessment in Vitro:**

No genetic changes were observed in a laboratory test using: bacteria

Genotoxicity**Assessment in Vivo:**

No genetic changes were observed in a laboratory test using: mice

Other information

The information presented is from representative materials with this Chemical Abstract Service (CAS) Registry number. The results vary depending on the size and composition of the test substance.

SECTION 12: ECOLOGICAL INFORMATION**Chemical Fate and Pathway**

Data on this material and/or its components are summarized below.

Data for Proprietary Component (Proprietary)**Biodegradation:**

Not readily biodegradable. (28 d) biodegradation 1 - 2 %

Bioaccumulation:

60 d 49 - 437 (Cyprinus carpio (Carp))

Octanol Water Partition Coefficient:

log Pow: = 3.7, at 73 °F (23 °C) pH = 6

Ecotoxicology

Data on this material and/or its components are summarized below.

PEBAX® 4533 SP 01

Data for Proprietary Component (Proprietary)**Aquatic toxicity data:**

No effect up to the limit of solubility. Danio rerio (zebra fish) 96 h LC50 > 100 mg/l (Nominal concentration)

Algae:

Harmful. Desmodesmus subspicatus (green algae) 72 h EC50 = 61 mg/l (Nominal concentration)

Microorganisms:

Respiration inhibition / Activated sludge 3 h IC50 > 100 mg/l (Nominal concentration)

Chronic toxicity to aquatic invertebrates:

Very toxic. Reproduction Test / Daphnia magna (Water flea) 21 d NOEC = 0.002 mg/l

Chronic toxicity to aquatic plants:

Toxic. Growth inhibition / Desmodesmus subspicatus (green algae) 72 hrs NOEC < 1.23 mg/l (Nominal concentration)

SECTION 13: DISPOSAL CONSIDERATIONS**Waste disposal:**

Disposal via incineration is recommended. Dispose of in accordance with federal, state and local regulations. Pigmented, filled and/or solvent laden product may require special disposal practices in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations. Take appropriate measures to prevent release to the environment.

SECTION 14: TRANSPORT INFORMATION

US Department of Transportation (DOT): not regulated

International Maritime Dangerous Goods Code (IMDG): not regulated

SECTION 15: REGULATORY INFORMATION**Chemical Inventory Status**

US. Toxic Substances Control Act

TSCA

This product complies with TSCA Inventory requirements. The polymer component(s) is (are) eligible for the amended polymer exemption at 40 CFR Section 723.250.

SAFETY DATA SHEET



PEBAX® 4533 SP 01

Canadian Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC (CN)	All components of this product are listed or exempted
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	Not all components of this product are listed or exempted
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	Not all components of this product are listed or exempted
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	All components of this product are listed or exempted
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	The mixture contains a polymer. All the monomers for this polymer & other substances are listed on the inventory.
Australian Inventory of Industrial Chemicals	AU AIICL	All components of this product are listed or exempted
Taiwan Chemical Substance Inventory (TCSI)	TCSI	All components of this product are listed or exempted

United States – Federal Regulations**SARA Title III – Section 302 Extremely Hazardous Chemicals:**

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

SARA Title III - Section 311/312 Hazard Categories:

No SARA Hazards

SARA Title III – Section 313 Toxic Chemicals:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

United States – State Regulations**California Prop. 65**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.

Product code: A07533

Version 1.2

Issued on: 08/29/2024

Page: 10 / 11

SECTION 16: OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3.**

- H302 Harmful if swallowed.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Latest Revision(s):

Reference number: 600003675
Date of Revision: 08/29/2024
Date Printed: 08/30/2024

PEBAX® is a registered trademark of Arkema France

All information contained herein is believed to be accurate as of the date of publication, is provided "as-is" and is subject to change without notice. This is not a warranty, an agreement, or substitute for expert or professional advice. Arkema Inc. ("Company") expressly disclaims and assumes no liability for the use of the products or reliance on this information. It is the sole responsibility of the user to determine the suitability of any products for user's application(s). NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED (INCLUDING SUITABILITY FOR USE IN ANY MEDICAL DEVICE OR MEDICAL APPLICATION), IS MADE CONCERNING THE PRODUCTS OR THE INFORMATION PROVIDED HEREIN. The information provided relates only to the specific products designated herein and may not be valid where such products are used in combination with other materials or in any process. The performance of the product, its shelf life, and application characteristics depends on many variables, and changes in these variables can impact product performance. You are responsible to test the suitability of any product in advance for any intended use or application and before commercialization. Nothing herein shall be construed as a license for the use of any product in a manner that might infringe any patent and it should not be construed as an inducement to infringe any patent. Please carefully review the Safety Data Sheet for the product.

The Company adheres to a strict policy that applies to the use of any of its products in medical device applications. This policy can be found at <https://www.arkema.com/global/en/social-responsibility/innovation-and-sustainable-solutions/responsible-product-management/medical-device-policy/> which is incorporated herein by reference and made a part hereof. Except as expressly authorized, the Company (i) has designated specific medical grade compositions for products used in medical device applications and Company products not so designated are not authorized for use in medical device applications and (ii) strictly prohibits the use of any of its products in medical device applications that are implanted in the body or in contact with bodily fluids or tissues for greater than 30 days. The Company does not design, manufacture and/or directly sell any medical devices. The Company does not co-design, or offer assistance to any purchaser of its products, in their design, manufacture and/or sale of products for medical devices. It is the sole responsibility of the manufacturer of medical devices to determine the suitability of all raw material, products and components, including any medical grade products, in order to ensure that the medical device is safe for end-use and complies with all applicable legal and regulatory requirements and to conduct all necessary tests and inspections.

