SAFETY DATA SHEET
Effective date: 03 July 2025
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TRADE NAME
ZOLTEK™ PX CARBON FIBER

SECTION 1: Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product identifier

Product name	ZOLTEK™ PX Carbon Fiber (PX30 - PX35 – PX36 - PX38)
Synonyms	n/a
Chemical family	carbon fiber
Product description	continuous, split-tow (Kassen), chopped, milled, carbon fiber fabric

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant uses industrial applications

1.2.2 Uses advised against none known

In accordance with Regulation 1907/2006/EC (REACH), 29 CFR 1910.1200(d) HazCom Standard, and NOM 018 STPS 2015, the product is considered an article or not a hazardous mix, for which a safety data sheet is not required. The following information is only indicative in order to ensure safe use of the product.

1.3 Details of the supplier of the safety data sheet

Company

Zoltek Companies, Inc.
3101 McKelvey Road
St. Louis, MO 63044
USA
(314) 291-5110
www.zoltek.com

Contact information sds@zoltek.com

1.4 Emergency telephone number

+1 (314) 291-5110 8AM-5PM / M-F

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Product definition article

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP], 29 CFR 1910.1200(d)(1)(i) HazCom Standard, and NOM-018-STPS-2015

Not considered as a hazardous mixture

2.2 Label elements

Hazard symbols	none
Hazard statements	none
Precautionary statements	none
Special labeling	not applicable

Product is non-hazardous and therefore does not require a hazard warning label, in accordance with OSHA HazCom, EC-directives, and MX regulations.

2.3 Other hazards

Physio-chemical hazards see SECTION 10
In the supplied form the product itself is not explosive at all; however, the build-up of fines and dust can lead to a risk of dust explosions.

Human health dangers see SECTION 11 and below

Eye Dust may cause temporary irritation.

Skin Dust may cause mild irritation. In some cases, the dust may cause allergic skin reactions.

Inhalation Dust may cause mild irritation.

Environmental hazards see SECTION 12

Other hazards This product and its dusts are electrically conductive.

Results of PBT and vPvB assessment: This mixture does not contain any components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher in accordance with Annex XIII of Regulation 1907/2006/EC.

Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

SECTION 3: Composition/Information on Ingredients

3.1 Substances not applicable

3.2 Mixtures article

Component	CAS #	EC #	%	Classification
Carbon fiber (carbon) / polyacrylonitrile (PAN)-based	7440-44-0	231-153-3	91-100	-
(Nitrogen)*	(7727-37-9)	(231-783-9)	(0-7)	-
(Oxygen)*	(7782-44-7)	(231-956-9)	(0-2)	-
**as part of carbon fiber*				
Sizing	proprietary	n/a	0-9	-
2,2'-[(1-Methylethylidene)bis-(4,1-phenyleneoxymethylene)]-bisoxirane Index number: 603-073-00-2	1675-54-3	216-823-5	< 1	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Skin Sens. 1 (H317)

Specific concentration limits:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (CAS: 1675-54-3):

Eye Irrit. 2; H319: C≥5 %

Skin Irrit. 2; H315: C≥5 %

For the full text of hazard statements, see Section 16.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General information not applicable

Inhalation Remove from the area of the dust to fresh air. Seek medical attention if you feel unwell.

Skin contact Remove by tapping skin with adhesive surface material, such as Scotch® clear cellophane tape.
Wash affected areas thoroughly with soap and water.

Eye contact Flush eyes with water for 15 minutes.

Ingestion In the event of deliberate ingestion, do not induce vomiting unless directed to do so by consulting with a doctor.

4.2 Most important symptoms and effects, both acute and displayed

No acute and delayed symptoms and effects known.

4.3 Indication of any immediate medical attention and special treatment

No special treatment needed; treat symptomatically.

SECTION 5: Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media normal firefighting media and procedures

Unsuitable extinguishing media dependent on processing plant conditions

5.2 Special hazards arising from the substance or mixture

airborne fibers are electrically conductive
CO_2, CO and a minute amount of N_2, HCN and H_2O vapors may be formed during combustion

5.3 Advice for firefighters self-contained breathing apparatus (SCBA)

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2 For emergency responders No special precautions required.

6.2 Environmental precautions The product does not present hazard to the environment – special precautions are not required.

6.3 Methods and material for containment and cleaning up

6.3.1 For containment In case of spill, collect the spilled materials. If the material is not contaminated, put it into a clean container and it can be reused. Otherwise, dispose of it properly.

6.3.2 For cleaning up Because the dust is electrically conductive and may become airborne, clean up with a vacuum. If an electrical appliance is used, take the steps necessary to avoid the risk of electrical shock.

6.3.3 Preventative measures against second disasters

Remove possible sources of ignition in the surrounding area.

6.4 Reference to other sections For further detailed information see Sections 8 and 13.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling No special measures necessary if used properly.
Airborne particles and filaments should be controlled so as to minimize skin irritation and electrical shorts in switch gears, etc. due to conductivity of fiber.

7.2 Conditions for safe storage, including any incompatibilities

Do not store together with oxidizing agents.

7.3 Specific end use(s) see section 1.2

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Occupational exposure limits OSHA and ACGIH (USA) have not established air contamination for carbon fibers. Under certain conditions this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m^3 (respirable fraction) and 15 mg/m^3 (total dust). ACGIH has established an exposure value of 3 mg/m^3 (respirable fraction) and 10 mg/m^3 (total).

Japan Society of Occupational Health sets 0.5 mg/m^3 limit for inhalation dust and 2.0 mg/m^3 as the total dust that are classified as “Class 1 dust” by the Japanese regulation (2011)

NHFPC (PRC) has an established standard for carbon fiber’s particulates not otherwise regulated set at 6 mg/m^3 ESTL (total dust) and 3 mg/m^3 TWA (total dust),

Belgium has established an Occupational Exposure Limit for carbon fiber as 2 fiber/cm^3 TWA.

DNEL values no data available
PNEC values no data available

8.2 Exposure controls

8.2.1 Appropriate engineering controls local exhaust for airborne fiber removal.

8.2.2 Personal protection equipment

8.2.2.1 Eye and face protection	safety glasses (EN ISO 16321-1:2022; EN 166)
8.2.2.2 Skin protection	
Hand protection	protective gloves (EN 374)
Other skin protection	Recommend garments (i.e. long pants and long sleeve shirts) to eliminate possible skin irritation.
8.2.2.3 Respiratory protection	Personal dust respirators applicable if high degree of fiber fly is experienced.
8.2.2.4 Thermal hazards	not applicable
8.2.3 Environmental exposure controls	see SECTION 6 & 7

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

	Parameter	Value / Test method / Remarks
1.	**Physical state**	solid (fiber)
2.	**Colour**	black
3.	**Odour, odour threshold**	odourless
4.	**Melting point/freezing point**	~ 3,500°C
5.	**Boiling point or initial boiling point and boiling range**	not applicable
6.	**Flammability**	not applicable
7.	**Lower and upper explosion limit**	not applicable
8.	**Flash point**	not applicable
9.	**Auto-ignition temperature**	not applicable
10.	**Decomposition temperature**	sizing: >240°C carbon fiber: >650°C
11.	**pH**	not applicable
12.	**Kinematic viscosity**	not applicable
13.	**Solubility in water**	negligibly dispersible
	in other solvents	no data*
14.	**Partition coefficient n-octanol/water (log value)**	not applicable
15.	**Vapour pressure**	not applicable
16.	**Density and/or relative density**	1.81 (H_2O @ 4°C = 1.00)
17.	**Relative vapour density**	not applicable
18.	**Particle characteristics**	no data*

9.2 Other information:

9.2.1 Information with regard to physical hazard classes:

Explosive properties: potential for weak explosion with milled fiber or dusts Class St 1* / <50 Kst (bar·m/s)

Source: OSHA CPL 03-00-008 – Combustible Dust National Emphasis Program

9.2.2 Other safety characteristics:
No other characteristics available.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: Stability and Reactivity

10.1 Reactivity	see SECTION 10.3
10.2 Chemical stability	stable under normal ambient and anticipated storage and handling conditions of temperature and pressure
10.3 Possibility of hazardous reactions	can react with strong oxidizing agents
10.4 Conditions to avoid	see SECTION 7
10.5 Incompatible materials	strong oxidizing agents
10.6 Hazardous decomposition products	Products of combustion and decomposition will depend on other materials present in the fire and the fire conditions. Burning will produce CO_2, CO, and minute amounts of N_2, HCN and H_2O.

SECTION 11: Toxicological Information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	based on available data, the classification criteria are not met
Skin corrosion/irritation	based on available data, the classification criteria are not met
Serious eye damage/irritation	based on available data, the classification criteria are not met
Respiratory or skin sensitization	based on available data, the classification criteria are not met
Germ cell mutagenicity	based on available data, the classification criteria are not met
Carcinogenicity	based on available data, the classification criteria are not met
Reproductive toxicity	based on available data, the classification criteria are not met
STOT-single exposure	based on available data, the classification criteria are not met
STOT-repeated exposure	based on available data, the classification criteria are not met
Aspiration hazard	based on available data, the classification criteria are not met

Information about the product:

Carcinogenicity:	filament diameter >3μm / non-respirable (IARC)
Aspiration hazard:	not an inhalation hazard

11.2 Information on other hazards:

Endocrine disrupting properties:
Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

Other information:
No data available.

SECTION 12: Ecological Information

12.1 Toxicity	the mixture is not classified as hazardous for the environment
12.2 Persistence and degradability	no data available
12.3 Bioaccumulative potential	no data available
12.4 Mobility in soil	no data available

12.5 Results of PBT and vPvB assessment

This mixture does not contain any components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher in accordance with Annex XIII of Regulation 1907/2006/EC.

12.6 Endocrine disrupting properties

Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher

12.7 Other adverse effects	ecological data not available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Waste materials must be disposed of in accordance with the Directive on waste 2008/98/EC, RCRA 40 CFR 239-299 Subchapter I, and/or MX rulebook of the General Law for Waste prevention and integral management and any other applicable national or local regulations.

SECTION 14: Transport Information

ADR/RID; ADN; IMDG; IATA:
Not subject to the conventions of carriage of dangerous goods.

14.1 UN number or ID number	No UN or ID number.
14.2 UN proper shipping name	No proper shipping name.
14.3 Transport hazard class(es)	No transport hazard classes.
14.4 Packing group	No packing group.
14.5 Environmental hazards	No relevant information available

14.6 Special precautions to user see SECTION 6 to 8

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

TSCA Status Exempt - satisfies 'article' definition under 40 CFR 704.3

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

The mixture does not contain ≥ 0.1 % of substances on the candidate list for authorization of substances of very high concern (SVHC) under Regulation (EC) No 1907/2006 (REACH).

15.2 Chemical safety assessment has not been carried out

SECTION 16: Other Information

Revision date: 03 July 2025

Previous revision: 02 September 2020, CN: 1985

Relevant hazard statements (code and full text) of Sections 2 and 3:

H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.

Abbreviations and acronyms ADN = Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures

ADR = Accord relatif au transport international des marchandises dangereuses par route

CAS = Chemical Abstracts Service

CLP = Classification, Labelling and Packaging

EEC = European Economic Community

EINECS = European Inventory of Existing Commercial Chemical Substances

ELINCS = European List of Notified Chemical Substances

IBC-Code = International Coder for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IMDG = International Maritime Code for Dangerous Goods

IMO = International Maritime Organization

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic substance

RID = Règlement concermant le transport international ferroviare de marchandises dangereuses

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