

# SAFETY DATA SHEET



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**TRADE NAME**  
ZOLTEK™ PX35 PULTRUDED PROFILE

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## SECTION 1: Identification of the substance/mixture and the company/undertaking

### 1.1 Product identifier

Product name	ZOLTEK™ PX35 Pultruded Profile
Synonyms	n/a
Chemical family	mixture
Product description	continuous profile made from carbon fiber and cured resin

### 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

### 1.3 Details of the supplier of the safety data sheet

Company	Zoltek Composite Intermediates 27 Guenther Blvd. St. Peters, MO 63376 (314) 291-5110 www.zoltek.com
E-mail enquiry	<a href="mailto:sds@zoltek.com">sds@zoltek.com</a>

1.4 Emergency telephone number	+1 (314) 291-5110 8AM-5PM / M-F
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## 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]

not classified

#### 2.1.2 Classification according to Regulation 67/548/EEC or 1999/45/EC

**Hazard symbols** none

**R-phrases** none

### 2.2 Label elements

#### Labeling according to Regulation 67/548/EEC or 1994/45/EC

**Hazard symbols** none

**R-phrases** none

**S-phrases** none

**Special labeling** not applicable

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

### 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.

Upon heating (>150°C), may evolve dangerous gases & vapors

#### 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**

Product and its dusts are electrically conductive.

Take necessary precautions to protect equipment and prevent potential for electrical shock.

**SECTION 3: Composition/information on ingredients**

**3.1 Product-type** article

<b>Component</b>	<b>CAS. NO</b>	<b>Weight %</b>
Carbon fibers, PAN-based (carbon)	308063-67-4 (7440-44-0)	65 – 75
Polymerized Resin	none	25 – 35
Kaolin Clay	1332-58-7	0.5 – 1.5

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>General information</b>	not applicable
<b>Inhalation</b>	Remove from the area of the dust or vapor/smoke generated from cutting/grinding to fresh air. Seek medical attention if you feel unwell.
<b>Skin contact</b>	Remove clothing contaminated with dust from cutting/grinding/heating and wash affected areas thoroughly with soap and water.
<b>Eye contact</b>	In case of contact with dust from cutting/grinding process, flush eyes with water for 15 minutes.
<b>Ingestion</b>	In the event of ingestion of dust from cutting/grinding process, rinse mouth with water and drink plenty of additional water afterward; 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**

Irritation of mucous membranes from exposure to dust from cutting/grinding process.

**4.3 Indication of any immediate medical attention and special treatment**

no data available

## 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 media

airborne fibers are electrically conductive upon intense heating, CO<sub>2</sub>, CO and a minute amount of NO<sub>x</sub>, HCN and H<sub>2</sub>O may be released

**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** not applicable

**6.1.2 For emergency responders** not applicable

**6.2 Environmental precautions** not applicable

### 6.3 Methods and material for containment and cleaning up

**6.3.1 For containment** not applicable

**6.3.2 For cleaning up** not applicable

**6.4 Reference to other sections** personal protective equipment (PPE)

See SECTION 8

disposal considerations

See SECTION 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures necessary if used correctly. Carbon fiber composite coils are under tension – do not cut banding without proper coil release controls. Dust may form an explosive mixture with air when processed. Keep away from sources of ignition and refrain from smoking in the vicinity. Carbon fiber composite dusts are electrically conductive. Electrical equipment, enclosures, circuits and power tools in or near areas where carbon fiber composite are handled should be protected against infiltration or contact with airborne particles or filaments.

Avoid breathing dust, vapors, and gases from after-treatment processes (e.g. grinding/cutting/drilling). Ensure well-ventilated area for such activities.

### 7.2 Conditions for safe storage, including any incompatibilities

Avoid overheating. Do not store together with oxidizing agents. Store in a dry place. Carbon fiber is electrically conductive and may cause an electrical short.

### 7.3 Specific end use(s)

see SECTION 1.2

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

<u>Standard</u>	<u>Value</u>
OSHA PEL	particulates not otherwise regulated (nuisance dust): 5 mg/m <sup>3</sup> (respirable fraction) 15 mg/m <sup>3</sup> (total dust)
ACGIH TLV	3 mg/m <sup>3</sup> (respirable fraction) and 10 mg/m <sup>3</sup> (total)
NHFPC (PRC)	6mg/m <sup>3</sup> ESTL (total dust) and and 3mg/m <sup>3</sup> TWA (total dust)
Belgium	2 fiber/cm <sup>3</sup> TWA

### 8.2 Exposure controls

**8.2.1 Appropriate engineering controls** local exhaust for airborne dust removal  
emergency eyewash

## 8.2.2 Personal protection equipment

8.2.2.1 Eye and face protection safety glasses

### 8.2.2.2 Skin protection

**Hand protection** protective gloves when performing or handling pieces after cutting & grinding

**Other skin protection** Recommend disposable protective garments to eliminate possible skin irritation.

8.2.2.3 Respiratory protection Personal dust respirator applicable if local engineering controls are inadequate to remove dust and vapors from cutting & grinding processes

8.2.2.4 Thermal hazards not applicable

8.2.3 Environmental exposure controls see SECTIONS 6 & 7

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	solid, heterogeneous material
<b>Odor</b>	not determined
<b>pH</b>	not determined
<b>Melting point / freezing point</b>	not determined
<b>Initial boiling point and boiling range</b>	not determined
<b>Flashpoint</b>	not determined
<b>Evaporation rate</b>	not determined
<b>Flammability (solid, gas)</b>	not determined
<b>Upper/lower flammability or explosive limits</b>	not determined
<b>Vapor pressure</b>	not determined
<b>Vapor density</b>	not determined
<b>Specific gravity (relative density)</b>	1.6 (H <sub>2</sub> O @ 4°C = 1.00)
<b>Solubility(ies) water</b>	not soluble
<b>Partition coefficient n-octanol/water</b>	not applicable
<b>Auto ignition temperature</b>	300–400°C
<b>Decomposition temperature (in Air)</b>	150–200°C
<b>Viscosity</b>	not applicable
<b>Explosive properties:</b>	dust may form explosive mixture in air
<b>Oxidizing properties</b>	not applicable

## 9.2 Other information

dust from cutting & grinding activities are electrically conductive and may cause short-circuiting of electrical equipment

## 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

Avoid reactions with strong oxidizing agents. The fine dust from a carbon fiber compound or composite that is cut or formed can create additional dust explosion risk depending on the resin or compounding agent.

### 10.4 Conditions to avoid

see SECTION 7

### 10.5 Incompatible materials

see SECTION 10.3

### 10.6 Hazardous decomposition products

No hazardous decomposition products will be formed during normal usage of carbon fiber composites. Complete or partial combustion may generate CO<sub>x</sub>, NO<sub>x</sub>, and other trace chemicals.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Accute toxicity

no data available

#### Skin corrosion/irritation

dust from cutting & grinding processes may cause skin irritation with itching and blushing

#### Serious eye damage/irritation

dust from cutting & grinding processes may cause eye irritation

#### Respiratory or skin sensitization

carbon fiber filament diameter >3 $\mu$ m  
non-respirable (IARC)

Inhalation of dust generated by cutting and grinding may irritate the mucous membranes of the upper respiratory tract and may cause coughing.

Gases and vapors generated by intense heating of the material (e.g. during cutting & grinding = smoke) are dangerous to one's health and may cause nausea and uneasiness

no data available (skin sensitization)

<b>Germ cell mutagenicity</b>	no data available
<b>Carcinogenicity</b>	no data available
<b>Reproductive toxicity</b>	no data available
<b>STOT-single exposure</b>	no data available
<b>STOT-repeated exposure</b>	no data available
<b>Aspiration hazard</b>	not an inhalation hazard

## SECTION 12: Ecological information

<b>12.1 Toxicity</b>	not data available
<b>12.2 Persistence and degradability</b>	no data available
<b>12.3 Bioaccumulative potential</b>	no data available
<b>12.4 Mobility in soil</b>	no data available
<b>12.5 Results of PBT and nPvB assessment</b>	no data available
<b>12.6 Other adverse effects</b>	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 and any other applicable national or local regulations.

## SECTION 14: Transport information

<b>14.1 UN number</b>	see SECTION 14.2
<b>14.2 UN proper shipping name</b>	not Dangerous Goods ADR/RID (land) ADN (inland navigation) IATA (air) IMDG (marine)
<b>14.3 Transport hazard class(es)</b>	see SECTION 14.2
<b>14.4 Packing group</b>	see SECTION 14.2
<b>14.5 Environmental hazards</b>	see SECTION 14.2



**14.6 Special precautions to user** see SECTIONS 6 to 8

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code**

not Dangerous Goods

## **SECTION 15: Regulatory information**

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

not applicable

**15.2 Chemical safety assessment** has not been carried out

## **SECTION 16: Other information**

**Revision date:** 18 March 2021, CN: 2040

**Previous revision:** 05 October 2015, CN:1338

## **Abbreviations and acronyms**

ADN = Accord européen relative au transport international des marchandises dangereuses par voie de navigation intérieure  
ADR = Accord européen relative 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  
MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
OSHA = Occupational Safety and Health Administration  
PBT = Persistent, Bioaccumulative and Toxic substance  
RID = Règlement concernant le transport international ferroviare de marchandises dangereuses

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