

SAFETY DATA SHEET



Effective date: 03 July 2025
Replaced edition from: 01 August 2022
Distribution date: 03 July 2025

TRADE NAME
ZOLTEK™ OX

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

1.1 Product identifier

Product name	ZOLTEK™ OX
Synonyms	OPAN, OPF
Chemical family	Oxidized/stabilized polyacrylonitrile (PAN) fiber
Product description	continuous tow or staple fiber made from precursor

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 Corporation 3101 McKelvey Rd. St. Louis, MO 63044 (314) 291-5110 www.zoltek.com
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Responsible person	sds@zoltek.com
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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]

Not considered as hazardous mixture.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

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 and EC-directives

2.3 Other hazards

Physio-chemical hazards see SECTION 10

Human health dangers see SECTION 11 and below

Eye Flush eyes with water for 15 minutes.

Skin Wash affected areas thoroughly with soap and water.

Inhalation Remove from the dust area to fresh air.

Environmental hazards see SECTION 12

Other hazards -

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. NO	Weight %
Oxidized or stabilized Polyacrylonitrile (PAN) fiber	308060-39-1	99-100
Sizing	Proprietary	up to 1
Formic acid	64-18-6	<0.01%

(as part of the sizing only for staple) .

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General information	not applicable
Inhalation	Remove from the dust area to fresh air.
Skin contact	Wash affected areas thoroughly with soap and water.
Eye contact	Flush eyes with water for 15 minutes.
Ingestion	In the event of deliberate ingestion, consult with a doctor.

4.2 Most important symptoms and effects, both acute and delayed

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 no data available

5.2 Special hazards arising from the substance or mixture

upon intense heating, CO₂, CO and a minute amount of NO_x, HCN and H₂O may be released

5.3 Advice for firefighters

self-contained breathing apparatus (SCBA)

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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 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 Keep the package sealed, away from dirt and moisture. Avoid exposure to sunlight.

7.2 Conditions for safe storage, including any incompatibilities
None

7.3 Specific end use(s) see SECTION 1.2

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters The components of the mixture are not regulated with exposure limit value.

DNEL values no data available
PNEC values no data available

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 (EN ISO 16321-1:2022; EN 166)
8.2.2.2 Skin protection	
Hand protection	Choose appropriate gloves to protect hands against hazards specific to place of work (EN 374).
Other skin protection	not applicable
8.2.2.3 Respiratory protection	Normal industrial hygiene practice (dust mask) if high degree of fiber fly is experienced.
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

Parameter	Value / Test method / Remarks
1. Physical state	solid
2. Colour	not determined
3. Odour, odour threshold	odourless
4. Melting point/freezing point	not determined
5. Boiling point or initial boiling point and boiling range	not determined
6. Flammability	not determined
7. Lower and upper explosion limit	not determined
8. Flash point	not determined
9. Auto-ignition temperature	670°C
10. Decomposition temperature	500°C
11. pH	not determined
12. Kinematic viscosity	not applicable
13. Solubility in water	not soluble
in other solvents	no data*
14. Partition coefficient n-octanol/water (log value)	not applicable
15. Vapour pressure	not determined
16. Density and/or relative density	≥1.35 g/cm ³
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: not applicable

Oxidizing properties: not applicable

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
10.3 Possibility of hazardous reactions	not determined
10.4 Conditions to avoid	see SECTION 7
10.5 Incompatible materials	no incompatible materials known
10.6 Hazardous decomposition products	Burning will produce CO ₂ , CO, and minute amounts of NO _x , HCN and H ₂ O.

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:

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

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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 Subchapter I 239-299, 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

CA Proposition 65

WARNING

This product can expose you to chemicals including Diethanolamine (CAS 111-42-2 – trace amount / impurity), which is known to the State of California to cause cancer.

For more information go to www.P65Warnings.ca.gov

Toxic Substances Control Act (TSCA) Status

This product is TSCA-compliant

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 authorisation 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

16.1 Revision date:

03 July 2025, CN 2331

16.2 Previous revision:

1 August 2022, CN 2161

16.3 Relevant hazard statements (code and full text) of Sections 2 and 3: none

16.4 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 concernant le transport international ferroviare de marchandises dangereuses

16.5 Disclaimer

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