



Azo-Core TBF 20-60

Material Safety Data Sheet

According to MOEL Public notice 2023-9
MSDS Number: No data available
Issue date: 6/23/2025 Version: 1.0

1. Product and company identification

1.1. Product Name

Product form : Mixture
Trade name : Azo-Core TBF 20-60
Product code : TBF 20-60BLK

1.2. Recommended use of the chemical and restrictions on use

1.2.1. Recommended use

Recommended use : Thermal barrier polymer (Part B).

1.2.2. Restrictions on use

No data available

1.3. Supplier information

- Manufacturer
Company : Azon USA Inc.
Address : (49004) USA Michigan Kalamazoo 2204 Ravine Rd
Tel. : 269-385-5942
Emergency information : For 24/7 multilingual advice for spill, leak, fire, exposure, or accident call CHEMTREC at 080-880-0454 (Toll Free, Local, Korean) and provide CCN 2189
Back-up Emergency Number: +65 3163 8374 (Singapore, multilingual) +1-703-527-3887 (USA, English Only)

- Manufacturer
Company : Azon Asia Inc.
Address : (CB 27459 KOR) South Korea Chungju 168 Joongwon Ind Rd. Judeok
Tel. : +82 (0) 43 840 0500

2. Hazards identification

2.1. Hazard Classification

Flammable liquids, Not classified
Acute toxicity (oral), Category 5 H303
Acute toxicity (dermal), Category 5 H313
Hazardous to the aquatic environment – Acute Hazard Not classified
Hazardous to the aquatic environment – Chronic Hazard, Not classified

2.2. Label elements including precautionary statements

2.2.1. Hazard pictograms (GHS KR)

Not applicable

2.2.2. Signal word (GHS KR)

Warning.

2.2.3. Hazard statements (GHS KR)

H303+H313 - May be harmful if swallowed or in contact with skin.

2.2.4. Precautionary statements (GHS KR)

Precaution:

Not applicable

Treatment:

P312 - Call a POISON CENTER/doctor/... if you feel unwell.

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Storage:

Not applicable

Disposal:

Not applicable

2.3. Other Hazard which are not included in the classification criteria

Not applicable

3. Composition/information on ingredients

Product form : Mixture

Substance name	Other Names	CAS-No. and Identifier number	Concentration (%)
Glycerol propylene oxide	No data available	CAS-No.: 25791-96-2	45 – 55

4. First-aid measures

4.1. Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

4.2. Skin contact

Remove affected clothing and wash all exposed skin areas with mild soap and water, followed by warm water rinse.
If skin irritation occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

4.3. Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center or a doctor.

4.4. Ingestion

Rinse mouth.
Do not induce vomiting.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
Get medical advice/attention.

4.5. Indication of immediate medical attention and notes for physician

IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry chemical, CO2, or water spray or regular foam.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.
Reactivity in case of fire : The product is non-reactive under normal conditions of use, storage and transport.

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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear recommended personal protective equipment.
Evacuate the danger area.
If possible without taking personal risks, Remove ignition sources.
If outdoors, move to an area upwind of the danger area.
Prevent other non-emergency personnel from entering the danger area.
Only qualified personnel equipped with suitable protective equipment may intervene.
Do not attempt to take action without suitable protective equipment.
For further information refer to section 8: "Exposure controls/personal protection".
Evacuate unnecessary personnel.
Stop leak if safe to do so.
Prevent runoff from entering drains, sewers or waterways.

6.2. Environmental precautions and protective procedures

Avoid release to the environment.
Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Contain with non-combustible inert absorbent.
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Stop leak without risks if possible.
Take up in non-combustible inert absorbent and place into container for disposal.
Decontaminate surfaces and equipment with water and detergent.
Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

7. Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid breathing spray, mist, vapours. Do not get in eyes, on skin, or on clothing.
Hygiene measures	: Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage

Storage conditions	: Store in a cool, dry and well-ventilated area away from incompatible substances. Protect from sunlight. Keep container tightly closed. Store locked up.
Incompatible materials	: Oxidizing agents. Acids.
Packaging materials	: Store always product in container of same material as original container.

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8. Exposure controls & personal protection

8.1. Control parameters (e.g. occupational exposure limit values, biological limit values)

Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	: Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Personal protection equipment

Personal protective equipment

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment.
Wear recommended personal protective equipment.

Respiratory protection

In case of inadequate ventilation, wear respiratory protection.
Self-contained breathing apparatus

Eye protection

Chemical goggles or safety glasses

Hand protection

Protective gloves.
Wear suitable gloves resistant to chemical penetration

Skin and body protection

Wear suitable protective clothing

Personal protective equipment symbol(s):



9. Physical and chemical properties

a) Appearance	: No data available
Physical state	: Liquid
Colour	: Black.
b) Odour	: Slight.
c) Odour threshold	: No data available
d) pH	: No data available
e) Melting / freezing point	: Not applicable / No data available
f) Initial boiling point and boiling range	: No data available
g) Flash point	: > 93.3 °C / 200 °F
h) Evaporation rate	: No data available
i) Flammability (solid, gas)	: Not applicable.
j) Upper / lower flammability or explosive limits	: No data available
k) Vapour pressure	: No data available
l) Solubility	: Slightly soluble in: Water.
m) Vapour density	: No data available
n) Relative density	: 1.048 – 1.054 @ 25 °C / 77 °F
o) Partition coefficient n-octanol/water (Log Kow)	: No data available
p) Auto-ignition temperature	: No data available
q) Decomposition temperature	: No data available

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|-------------------------|--------------------------------|
| r) Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 400 – 500 cP @ 25 °C / 77 °F |
| s) Molecular mass | : No data available |

10. Stability and reactivity

10.1. Chemical stability and Possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions of use.

No dangerous reactions known under normal conditions of use.

10.2. Conditions to avoid

Incompatible materials.

10.3. Incompatible materials

Oxidizing agents.

Acids.

10.4. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Thermal decomposition generates:

Carbon dioxide.

Carbon monoxide.

Nitrogen oxides.

11. Toxicological information

11.1. Information on the likely routes of exposure

- | | |
|-----------------------|--|
| Oral | : May be harmful if swallowed. |
| Skin and eyes contact | : Acute toxicity (dermal) - May be harmful in contact with skin. |
| Inhalation | : Not classified |

11.2. Health hazards information

Acute toxicity (oral):

May be harmful if swallowed.

Acute toxicity (dermal):

May be harmful in contact with skin.

Acute toxicity (inhalation):

Not classified

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ATE KR (oral)	2945.047 mg/kg bodyweight
ATE KR (dermal)	2500 mg/kg bodyweight

Glycerol propylene oxide (25791-96-2)

LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight

Skin corrosion/irritation:

Not classified

Serious eye damage/irritation:

Not classified

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Respiratory sensitization:

Not classified

Skin sensitization:

Not classified

Carcinogenicity:

Not classified

Mutagenicity:

Not classified

Reproductive toxicity:

Not classified

Glycerol propylene oxide (25791-96-2)

NOAEL (animal/male, F0/P)	≥ 1000 mg/kg bodyweight
NOAEL (animal/female, F0/P)	300 mg/kg bodyweight

STOT-single exposure:

Not classified

STOT-repeated exposure:

Not classified

Glycerol propylene oxide (25791-96-2)

NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight
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Aspiration hazard:

Not classified

Glycerol propylene oxide (25791-96-2)

Viscosity, dynamic	560.6 mPa·s
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12. Ecological information

12.1. Aquatic and terrestrial ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

Glycerol propylene oxide (25791-96-2)

LC50 - Fish [1]	218000 mg/l
EC50 - Crustacea [1]	> 100 mg/l
EC50 96h - Algae [1]	103000 mg/l
EC50 72h - Algae [1]	> 100 mg/l
LOEC (chronic)	> 10 mg/l
NOEC (chronic)	≥ 10 mg/l

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12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
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Glycerol propylene oxide (25791-96-2)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No data available

13. Disposal considerations

13.1. Disposal method

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Ecological waste information	: Avoid release to the environment.

13.2. Disposal precaution

Product/Packaging disposal recommendations	: Disposal must be done according to official regulations. Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

14. Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. UN proper shipping name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Marine pollutant		
	Not regulated	
No data available		

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14.6. Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises

No data available

15. Regulatory information

15.1. Occupational Safety and Health Act

Hazardous Substances Prohibited for Manufacturing	Not applicable	
Hazardous Substances Requiring Permission	Not applicable	
Threshold Limit Values Chemicals	Not applicable	
Hazardous Substances Below Permissible Level	Not applicable	
Hazardous Substances Subject to Working Environment Measurement	Not applicable	
Hazardous Substances Subject to Workers Requiring Health Examination	Not applicable	
Hazardous Substances Subject to Control	Not applicable	
Substance Subject to Submission of PSM	Applicable	Azo-Core TBF 20-60

15.2. Chemical Substances Control Act

Toxic Substances	Not applicable
Prohibited Substances	Not applicable
Restricted Substances	Not applicable
Substances Requiring Preparation for Accident	Not applicable

15.3. Safety Control of Dangerous Substances Act

Safety Control of Dangerous Substances Act	Applicable	Azo-Core TBF 20-60
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15.4. Wastes Control Act

Hazardous Substances in Designated wastes	Not applicable
Types of wastes	No data available

15.5. Other requirements in domestic and other countries

Act on Registration and Evaluation of Chemicals (K-REACH)

Korea Existing Chemicals Inventory (KECI)	Applicable	25791-96-2: α,α',α'' -1,2,3-Propanetriyltris[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] ; Polyoxypropylene glycerol triether (KECI-No. : KE-29338)
Priority Existing Chemicals (PEC)	Not applicable	
Substances Subject to Intensive Control	Applicable	Azo-Core TBF 20-60
CMR Substances	Not applicable	

Other Domestic Regulations

Persistent Organic Pollutants(POPs) Control Act	Not applicable
Ozone Depleting Substances(ODS)	Not applicable
PRTR Substances	Not applicable

EU Regulatory Information

EU Candidate list (SVHC)	Contains substance(s) listed on the REACH Candidate List < 0.1% or SCL.
EU authorization list (REACH Annex XIV)	Contains no substance(s) listed on REACH Annex XIV (Authorisation List)
EU restriction list (REACH Annex XVII)	Not applicable

US Regulatory Information

CERCLA Section 103 (40CFR302.4)	Contains listed substances
EPCRA Section 302 (40CFR355.30)	Not applicable
EPCRA Section 304 (40CFR355.40)	Not applicable
EPCRA Section 313 (40CFR372.65)	Not applicable

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16. Other information

16.1. Information source and references

No data available

16.2. Issue date

6/23/2025

16.3. Revision number and Revision date

Version : 1.0

Revision date : No data available

16.4. Others

No data available

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.