

SOLAR PANELS

Safety Data Sheet

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** SOLAR PANELS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Product designed for washing and protecting solar panels.
- 1.3 Details of the supplier of the safety data sheet:**
- TENZI Sp. z o.o.
Skarbimierzyce 20
72-002 Dołuje
tel. +48 91 3119777
fax. +48 91 3119779
E-mail address to the person responsible for this SDS: technolog@tenzi.pl
- 1.4 Emergency telephone number:**
112

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008:
Eye Dam. 1 H318 – Causes serious eye damage.

2.2. Label elements:
(According to 1272/2008/EC*)

Hazard symbols:



Signal words:
DANGER

Hazard statements:
H318 – Causes serious eye damage.

Precautionary statements:
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 – Immediately call a POISON CENTER/doctor

2.3. Other hazards:

Substance does not meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

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SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:**Composition (according to: 648/2004/EC):**

- < 15% non-ionic surfactants
- < 5% cationic surfactants
- auxiliary substances not classified as dangerous

Identification		Hazardous ingredient/classification	Concentration
CAS: 68439-45-2	Polymer	Alcohols, C6-12, ethoxylated 5-20 TE	< 15%
WE: Not applicable		Eye Dam. 1 H318, Acute Tox. 4 H302	
Index: Introductory			
Registration: Introductory			
CAS: 5131-66-8	225-878-4	1-butoxypropan-2-ol	< 3%
WE: 603-052-00-8		Flam. Liq. 3 H226, Skin Irrit. 2 H315, Eye Irrit. 2 H319	
Index: 01-2119475527-28-XXXX			
Registration: 01-2119475527-28-XXXX			
CAS: 75718-16-0	Polymer	Amino-alkyl-polysiloxane	< 5%
WE: Not applicable		Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Chronic 3 H412	
Index: Not applicable			
Registration: Not applicable			

The full texts of H symbols and phrases are in section 16.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures:**Inhalation:**

In case of inhalation poisoning symptoms (cough, dyspnea, dizziness) move the injured to fresh air.

Skin contact:

If product comes in contact with the skin, immediately remove all contaminated clothing and flush exposed area with large amount of water. In case of skin changes or burns get medical attention.

Eye contact:

Flush eyes with running water (for at least 15 minutes) while keeping eyelids open. Get medical attention.

Ingestion:

Do not induce vomiting. Get lots of water to drink and do not take any neutralizing agents.

Get medical attention if any alarming symptoms appear (stomachache, nausea) and show them this SDS or product's label.

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

May cause skin irritation.

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Eyes:

Causes serious eye damage.

Ingestion:

May cause mucous membranes irritation.

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

Get medical attention.

Fresh water and eye-wash preparations must be available on the worksite.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media:**Suitable extinguishing media:**

Use extinguishing measures that are appropriate to local circumstances and surrounding environment.

Unsuitable extinguishing media:

There are not any known extinguishing media that you shouldn't use.

5.2. Special hazards arising from the substance or mixture:

Product is non-flammable.

5.3. Advice for firefighters:

Firefighters should wear self-contained breathing apparatus and full protective clothing. In case of fire, warn the people nearby and evacuate unprotected and untrained personnel from hazard area. Notify relevant emergency services. If possible, remove the containers from the influence of fire and high temperature. Water may be used to keep fire-exposed containers cool until fire is out. The after burning residues should be removed.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:**For non-emergency personnel:**

Protective chemical-proof gloves (0.11 mm thick), safety glasses.

For emergency responders:

Protective clothes, protective chemical-proof gloves (0.11 thick), safety glasses.
Avoid contact with skin and eyes. Provide proper ventilation.

6.2. Environmental precautions:

No data available.

6.3. Methods and material for containment and cleaning up:

In case of unexpected release of the substance into the environment, inform appropriate services about the emergency and remove any source of ignition. Prevent spills from entering sewers, surface water or groundwater. If it is possible, confine and contain the spill by closing the flow of the liquid, plug the damaged container and put it into leakproof wrapping. For a larger spill, make a dike around the outside edges of the spill and use absorbent materials (sand, sawdust, minced limestone). Store clean-up materials for disposal as hazardous waste. Decontaminate polluted area with water.

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6.4. Reference to other sections:

See section 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Be careful when working with this product.

Use personal protection recommended in section 8

Mix only with water. DO NOT mix with any other chemical substances.

People with skin allergy or respiratory system problems should not have contact with this product.

Avoid risk – read this instruction sheet carefully before using the product.

After usage, keep container tightly closed and keep it away from unauthorized people.

Use adequate ventilation to avoid inhalation poisoning.

7.2. Conditions for safe storage, including any incompatibilities:

Store in a tightly closed, original plastic container. Store this product in a dry environment that will be maintained at 5°C - 35°C temperature with a good ventilation system and an easily washable, nonabsorbable alkaline resistant floor.

DO NOT expose the product to sunlight and keep it away from heat, sparks, flame and other sources of ignition.

7.3. Specific end use(s):

No data available.

SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. Control parameters:

Please check any national occupational exposure limit values in your country.

NDS/NDSCh/NDSP values for individual chemical substances (according to SDS or Chemical Safety Report):

Alcohols, C6-12, ethoxylated 5-20 TE (data for highly concentrated substance):

NDS, NDSCh, NDSP: not identified.

1-butoxypropan-2-ol (data for highly concentrated substance):

NDS, NDSCh, NDSP: not identified.

Amino-alkyl-polysiloxane (data for highly concentrated substance):

NDS, NDSCh, NDSP: not identified.

DNEL /PNEC values for individual chemical substances (according to SDS or Chemical Safety Report):

Alcohols, C6-12, ethoxylated 5-20 TE (data for highly concentrated substance):

No data available.

1-butoxypropan-2-ol (data for highly concentrated substance):

DNEL:

Group: workers, Exposure time: long-term, Exposure route: dermal,

Value: 44 mg/kg

Group: workers, Exposure time: long-term, Exposure route: inhalation,

Value: 270.5 mg/m³

Group: consumers, Exposure time: long-term, Exposure route: dermal,

Value: 16 mg/kg

Group: consumers, Exposure time: long-term, Exposure route: inhalation,

Value: 33.8 mg/m³

Group: consumers, Exposure time: long-term, Exposure route: ingestion,

Value: 8.75 mg/kg

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PNEC:

Aqua (fresh water):	0.525 mg/l
Aqua (marine water):	0.0525 mg/l
Sediment (fresh water):	2.36 mg/kg
Sediment (marine water):	0.236 mg/kg
Soil:	0.16 mg/kg
Sewage treatment plant:	10 mg/l
Intermittent release:	5.25 mg/l

Amino-alkyl-polysiloxane (data for highly concentrated substance):

No data available.

NOTE: When the concentration of substance is known, personal protective equipment should be chosen based on substance concentration in a workplace, exposure time and operations performed by the employee. In emergency situations, if substance concentration in the workplace is unknown, personal protection of highest class level should be used.

8.2. Exposure controls:**RESPIRATORY PROTECTION:**

Not applicable.

HAND PROTECTION:

Not applicable

EYE/FACE PROTECTION:

Safety glasses.

SKIN PROTECTION:

Not applicable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Appearance:	Liquid
Odour:	Characteristic for materials used in production
Odour threshold:	No data available
pH:	5 ± 1
Melting point:	No data available
Freezing point:	No data available
Initial boiling point:	No data available
Boiling range:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Upper explosive limit:	No data available
Lower explosive limit:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	1.000 ± 0.020 g/cm ³

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Solubility:

A) Water: soluble
B) Organic solvent: No data available

Partition coefficient N-Octan: No data available

Partition coefficient Water: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidising properties: No data available

9.2. Other information:

Refractive index: 35% Brix* \pm 5%

* - Degrees Brix is the content of an aqueous solution. One degree Brix is 1 gram of sucrose in 100 grams of solution and represents the strength of the solution as percentage by weight (%w/w).

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

No data available.

10.2 Chemical stability:

Stable under recommended storage conditions (see section 7).

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Avoid heavily warmed rooms without ventilation and long-term exposure to sunlight.

10.5 Incompatible materials:

Alkali, oxidizing products.

10.6 Hazardous decomposition products:

No data available.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

ACUTE TOXICITY:

Skin contact: may cause skin irritation.

Eye contact: causes serious eye damage

Digestive system: may cause mucous membranes irritation.

ATEmix = 3 520 (acute toxicity)

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DETAILS OF PARTICULAR COMPONENTS (according to substances SDS):

Alcohols, C6-12, ethoxylated 5-20 TE (data for highly concentrated substance):

LD50: > 528 mg/kg (mouse, orally)

May be harmful after swallowing.
May cause burns in mouth, throat and stomach.
Causes serious eye damage.

1-butoxypropan-2-ol (data for highly concentrated substance):

LD50: 3300 mg/kg (rat, orally)
LC50: > 3.4 mg/l > 651 ppm 4h (comparatively with OECD 403)
LD50: 2000 mg/kg (rat, dermally)

Irritant to eyes.
Irritant to skin.
Does not cause allergy.

Amino-alkyl-polysiloxane (data for highly concentrated substance):

LD50: 2000 mg/kg (rat, orally)

Irritant to skin.
Risk of serious eye damage.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity:

Data for the mixture ingredients:

Alcohols, C6-12, ethoxylated 5-20 TE (data for highly concentrated substance):

No data available.

1-butoxypropan-2-ol (data for highly concentrated substance):

Low probability of harmful effects on aquatic organisms. With appropriate insertion of small concentrations into biological sewage treatment plants, disturbances in the decomposition of active sediment should not be expected.

LC50: > 560-1000 mg/l/96h (fish)
EC50: > 1000 mg/l/48h (aquatic invertebrates)
EC50: > 1000 mg/l/96h (aquatic plants)
EC50: > 1000 mg/l/180min (active sediment)

Amino-alkyl-polysiloxane (data for highly concentrated substance):

No data available.

12.2. Persistence and degradability:

The surfactants contained within the product comply with the biodegradability criteria as laid down in Regulation (EC) No 648/2004 on detergents.

Data for the mixture ingredients:

Alcohols, C6-12, ethoxylated 5-20 TE (data for highly concentrated substance):

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Biodegradability >64% in 28 days.

1-butoxypropan-2-ol (data for highly concentrated substance):

Easily biodegradable (according to OECD).

Elimination: 90% recution DOC (28 days) (OECD 301E/92/69/EWG).

Amino-alkyl-polysiloxane (data for highly concentrated substance):

Product is not soluble in water and floats on its surface. It can be separated mechanically in sewage treatment plant.

12.3. Bioaccumulative potential:

Bioaccumulation is incredible - data based on mixture ingredients.

12.4. Mobility in soil

The product may sink into groundwater systems after dissolving.

12.5. Results of PBT and vPvB assessment:

This substance/mixture does not meet the PBT and vPvB criteria of REACH, annex XIII..

12.6. Other adverse effects:

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

RESIDUES AND WASTES:

DO NOT mix with other liquid wastes.

DO NOT empty into sewage system. Product should be totally used up according to its description.

If it's impossible to do so, dispose of this material and its container at hazardous or special waste collection point.

13.1. Waste treatment methods:

Contaminated containers should be completely emptied. Several times rinse the container promptly after emptying. Empty container can be stored in containers for collection of plastic packaging or can be delivered to specialized company for recycling.

Disposal should be in accordance with the national/international regulations.

Waste code and type: 15 01 02 - plastic container.

SECTION 14. TRANSPORT INFORMATION

TRADE NAME: SOLAR PANELS

- | | |
|--------------------------------------------------------------------------------|----------------------------------------|
| 14.1. UN Number: | Not applicable. |
| 14.2. UN proper shipping name: | Not applicable. |
| 14.3. Transport hazard class(es): | Not applicable. |
| 14.4. Packing group: | Not applicable. |
| 14.5. Environmental hazards: | No. |
| 14.6. Special precautions for user: | For more details see Sections 6 and 8. |
| 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | No data available. |

WARNING LABELS

not applicable

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SECTION 15. REGULATORY INFORMATION

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

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

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 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

DIRECTIVE 2008/112/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 amending Council Directives 76/768/EEC, 88/378/EEC, 1999/13/EC and Directives 2000/53/EC, 2002/96/EC and 2004/42/EC of the European Parliament and of the Council in order to adapt them to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

COMMISSION REGULATION (EU) No 758/2013 of 7 August 2013 correcting Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

DIRECTIVE 2014/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 amending Council Directives 92/58/EEC, 92/85/EEC, 94/33/EC, 98/24/EC and Directive 2004/37/EC of the European Parliament and of the Council, in order to align them to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents

REGULATION (EC) No 1336/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 amending Regulation (EC) No 648/2004 in order to adapt it to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

REGULATION (EC) No 273/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 February 2004 on drug precursors..

15.2. Chemical safety assessment

For mixture:

A Chemical Safety Assessment has not been carried out.

For following mixture substances:

Alcohols, C6-12, ethoxylated 5-20 TE: Not applicable.

1-butoxypropan-2-ol: A Chemical Safety Assessment has been carried out.

Amino-alkyl-polysiloxane: Not needed.

SECTION 16. OTHER INFORMATION

Information above is based on current knowledge of product in its current form.

All data are presented in order to take into account safety requirements priority and not to guarantee special properties of the product. If product usage conditions are not under manufacturer control, responsibility for safe use lies with the person that uses them. The employer is obliged to inform all employees, who have contact with the product, about the risk and safety measures specified in the data sheet. Safety data presented above were prepared based on safety characteristics of substances used by

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the producer to compose the product and based on regulations for handling dangerous substances and their preparation. Classification of chemical mixture was done with calculation methods, based on the content of hazardous ingredients.

The full list of symbols and H phrases from Section 2 and 3:

Acute Tox. 4	– Acute toxicity, category 4.
Aquatic Chronic 3	– Hazardous to the aquatic environment - Chronic Hazard, category 3.
Eye Dam. 1	– Serious eye damage, category 1.
Skin Irrit. 2	– Causes skin irritation, category 2.
Flam Liq. 3	– Flammable liquid and vapour, category 3.
Eye Irrit. 2	– Causes serious eye irritation, category 2.
H226	– Flammable liquid and vapour.
H302	– Harmful if swallowed.
H315	– Causes skin irritation.
H318	– Causes serious eye damage.
H319	– Causes serious eye irritation.
H412	– Harmful to aquatic life with long lasting effects.

More information on the product can be found on the specific technical data sheet which is available on www.tenzi.pl

Training:

Course participants should be trained about how to handle this hazardous substance, about safety and work hygiene. Drivers should also be trained and obtain proper certification in accordance with the ADR requirements.

Expiry date:

36 months from the production date (if product is stored according to the manufacturer recommendations)

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