



# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010  
Issue date: 11/21/2022 Revision date: 11/21/2024 Version: 1.1

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
Trade name : Solar panel glass cleaner  
Type of product : Glass cleaner, Multi surface cleaner  
Product code : SH1589  
Product group : Trade product

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

Use of the substance/mixture :

#### 1.3. Supplier's details

##### Manufacturer

Shield Chemicals (Pty) Ltd  
9 London Rd Apex  
P.O. Box 1939  
1501 Benoni – Gauteng  
South Africa  
T (011) 421 7111  
Contact: Jayson Clark

#### 1.4. Emergency telephone number

Emergency number : (011) 421 7111

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Flammable liquids Not classified  
Skin corrosion/irritation, Category 1 H314  
Serious eye damage/eye irritation, Category 1 H318  
Full text of H-statements: see section 16

#### 2.2. Label elements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :



Signal word (GHS-ZA) : Danger  
Hazard statements (GHS ZA) : H314 - Causes severe skin burns and eye damage  
Precautionary statements (GHS ZA) : P260 - Do not breathe dusts or mists.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P280 - Wear eye protection, protective clothing, protective gloves.  
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P316 - Get emergency medical help immediately.  
P317 - Get medical help.  
P321 - Specific treatment (see ... on this label).  
P363 - Wash contaminated clothing before reuse.

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

P405 - Store locked up.

P501 - Dispose of contents and container to a hazardous or special waste collection point.

### 2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Causes severe skin burns and eye damage, Causes serious eye damage.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name            | Product identifier | %         | Classification according to the United Nations GHS  |
|-----------------|--------------------|-----------|---|
| 2-Butoxyethanol | -                  | 1.0 - 5.0 | Flam. Liq. Not classified<br>Acute Tox. 4 (Oral), H302<br>Acute Tox. Not classified (Dermal)<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Aquatic Acute Not classified |
| 2-propanol      | CAS-No.: 67-63-0   | 1.0 - 2.0 | Flam. Liq. 2, H225<br>Acute Tox. Not classified (Oral)<br>Acute Tox. Not classified (Dermal)<br>Eye Irrit. 2A, H319<br>STOT SE 3, H336<br>Asp. Tox. Not classified<br>Aquatic Acute Not classified                      |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.  
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Burns.  
Symptoms/effects after eye contact : Serious damage to eyes.  
Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe vapours.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| 2-propanol (67-63-0)  |                                 |
|---|---------------------------------|
| South Africa - Occupational Exposure Limits (Airborne Pollutants) |                                 |
| Local name  | Isopropyl alcohol (Propan-2-ol) |
| OEL TWA   | 980 mg/m <sup>3</sup>           |
| OEL TWA [ppm]   | 400 ppm                         |
| OEL STEL  | 1225 mg/m <sup>3</sup>          |
| OEL STEL [ppm]  | 500 ppm                         |
| Regulatory reference  | Government Notice No. R 904     |

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

- Hand protection : Protective gloves  
Eye protection : Safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

#### Personal protective equipment symbol(s):



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid  
Appearance : Liquid.  
Colour : Blue.  
Odour : characteristic.  
Odour threshold : No data available  
pH : 9.5 – 11.5  
pH solution : No data available  
Relative evaporation rate (butylacetate=1) : No data available  
Relative evaporation rate (ether=1) : No data available  
Melting point : Not applicable  
Freezing point : No data available  
Boiling point : No data available  
Flash point : > 100 °C  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability : Not applicable  
Vapour pressure : No data available  
Vapour pressure at 50°C : No data available  
Relative vapour density at 20°C : No data available  
Relative density : No data available  
Relative density of saturated gas/air mixture : No data available  
Density : No data available  
Relative gas density : No data available  
Solubility : No data available  
Partition coefficient n-octanol/water (Log Pow) : No data available  
Partition coefficient n-octanol/water (Log Kow) : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available  
Explosive properties : No data available  
Oxidising properties : No data available  
Explosive limits : No data available  
Lower explosion limit : No data available  
Upper explosion limit : No data available

### 9.2. Other information

No additional information available

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

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

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

| 2-Butoxyethanol    |             |
|--------------------|-------------|
| LD50 oral rat      | ≈ 470 mg/kg |
| LD50 dermal rabbit | ≈ 220 mg/kg |

| 2-propanol (67-63-0)        |   |
|-----------------------------|---|
| LD50 oral rat               | 5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))                           |
| LD50 dermal rabbit          | 16400 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))               |
| LC50 Inhalation - Rat [ppm] | > 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s)) |

Skin corrosion/irritation : Causes severe skin burns.  
pH: 9.5 – 11.5  
Serious eye damage/irritation : Causes serious eye damage.  
pH: 9.5 – 11.5  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified

| 2-propanol (67-63-0) |               |
|----------------------|---------------|
| STOT-single exposure | Not available |

STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

|   |       |
|---|-------|
| <b>2-Butoxyethanol</b>                                |       |
| Animal studies and expert judgment for classification | False |
| <b>2-propanol (67-63-0)</b>                           |       |
| Animal studies and expert judgment for classification | False |

## SECTION 12: Ecological information

### 12.1. Toxicity

|   |   |
|---|---|
| Ecology - general   | : Before neutralisation, the product may represent a danger to aquatic organisms. |
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified  |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified  |

|  |  |
|--|--|
| <b>2-Butoxyethanol</b>                                     |  |
| LC50 - Fish [1]  | ≈ 2000 g/l   |
| <b>2-propanol (67-63-0)</b>                                |  |
| LC50 - Fish [1]  | 9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal) |
| Partition coefficient n-octanol/water (Log Pow)            | 0.05 (Weight of evidence approach, 25 °C)  |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)   |

### 12.2. Persistence and degradability

|                                  |  |
|----------------------------------|--|
| <b>Solar panel glass cleaner</b> |  |
| Persistence and degradability    | No additional information available  |
| <b>2-propanol (67-63-0)</b>      |  |
| Persistence and degradability    | Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD)  | 1.19 g O <sub>2</sub> /g substance   |
| Chemical oxygen demand (COD)     | 2.23 g O <sub>2</sub> /g substance   |
| ThOD                             | 2.4 g O <sub>2</sub> /g substance  |

### 12.3. Bioaccumulative potential

|  |  |
|--|--|
| <b>Solar panel glass cleaner</b>                           |  |
| Bioaccumulative potential                                  | No additional information available                          |
| <b>2-propanol (67-63-0)</b>                                |  |
| Partition coefficient n-octanol/water (Log Pow)            | 0.05 (Weight of evidence approach, 25 °C)                    |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
| Bioaccumulative potential                                  | Low potential for bioaccumulation (Log Kow < 4).             |

### 12.4. Mobility in soil

|                                  |                                     |
|----------------------------------|-------------------------------------|
| <b>Solar panel glass cleaner</b> |                                     |
| Mobility in soil                 | No additional information available |

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

|  |  |
|--|--|
| <b>2-propanol (67-63-0)</b>                                |  |
| Surface tension  | 0.021 N/m (25 °C)  |
| Partition coefficient n-octanol/water (Log Pow)            | 0.05 (Weight of evidence approach, 25 °C)                    |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
| Ecology - soil   | Highly mobile in soil.                                       |

### 12.5. Other adverse effects

Ozone : Not classified  
Other adverse effects : No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

| SANS                                    | IMDG  | IATA                               |
|---|---|------------------------------------|
| <b>14.1. UN number</b>                  |   |                                    |
| Not regulated for transport             |   |                                    |
| <b>14.2. Proper Shipping Name</b>       |   |                                    |
| Not applicable                          | Not applicable  | Not applicable                     |
| <b>14.3. Transport hazard class(es)</b> |   |                                    |
| Not applicable                          | Not applicable  | Not applicable                     |
| Not applicable                          | Not applicable  | Not applicable                     |
| <b>14.4. Packing group</b>              |   |                                    |
| Not applicable                          | Not applicable  | Not applicable                     |
| <b>14.5. Environmental hazards</b>      |   |                                    |
| Dangerous for the environment : No      | Dangerous for the environment : No<br>Marine pollutant : No | Dangerous for the environment : No |
| No supplementary information available  |   |                                    |

### 14.6. Special precautions for user

**SANS**  
No data available

**IMDG**  
No data available

**IATA**  
No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

# Solar panel glass cleaner

## Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

### SECTION 15: Regulatory information

#### 15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

### SECTION 16: Other information

Issue date : 21/11/2022

Revision date : 21/11/2024

| Full text of H-statements |  |
|---------------------------|--|
| H225                      | Highly flammable liquid and vapour                   |
| H301                      | Toxic if swallowed                                   |
| H302                      | Harmful if swallowed                                 |
| H303                      | May be harmful if swallowed                          |
| H311                      | Toxic in contact with skin                           |
| H313                      | May be harmful in contact with skin                  |
| H314                      | Causes severe skin burns and eye damage              |
| H315                      | Causes skin irritation                               |
| H317                      | May cause an allergic skin reaction                  |
| H318                      | Causes serious eye damage                            |
| H319                      | Causes serious eye irritation                        |
| H330                      | Fatal if inhaled                                     |
| H332                      | Harmful if inhaled                                   |
| H336                      | May cause drowsiness or dizziness                    |
| H400                      | Very toxic to aquatic life                           |
| H401                      | Toxic to aquatic life                                |
| H410                      | Very toxic to aquatic life with long lasting effects |
| H412                      | Harmful to aquatic life with long lasting effects    |

Safety Data Sheet (SDS), South Africa

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.