



## **AUGEO CLEAN MULTI**

Ekokoza s.r.o. S.A. declares that **AUGEO CLEAN MULTI** is obtained from the acetalization reaction of glycerin.

In the context of European Regulation N°1223/2009 of 30 November 2009 as amended on cosmetic products, rules are established in order to achieve an internal market for cosmetic products while ensuring a high level of protection of human health. In consequence cosmetic products have to be safe under normal or reasonably foreseeable conditions of use. According to Article 14 cosmetic products shall not contain restricted substances which are not used in accordance with the restrictions laid down in Annex III to this regulation. Furthermore certain substances have been identified as likely to cause allergic reactions and it will be necessary to restrict their use and/or impose certain conditions concerning them. In order to ensure that consumers are adequately informed, the presence of these allergenic substances should be mentioned in the list of ingredients. Moreover according to Article 19 on labeling the presence of substances, the mention of which is required under the column 'Other' in Annex III, shall be indicated in the list of ingredients in addition to the terms parfum or aroma.

Annexes of the Regulation:

- × Annex II presents a list of substances prohibited in cosmetic products.
  
- × Annex III presents a list of substances which cosmetic products must not contain except subject to the restrictions laid down.
  
- × Annex IV presents a list of colorants allowed in cosmetic products.
  
- × Annex V presents a list of preservatives allowed in cosmetic products.

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## **AUGEO CLEAN MULTI**

× Annex VI presents a list of UV filters allowed in cosmetic products.

None of the fragrance allergens which are assigned reference numbers 67 to 92 as listed in Annex III to this regulation are added intentionally during the manufacturing process of **AUGEO CLEAN MULTI**. Based on our knowledge of the raw materials and the manufacturing process, we have no reason to expect any of these substances to be present in the final product or to be formed either during the manufacture or under normal handling, storage and use conditions. Therefore the presence of these substances is not expected in this context.

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### **AUGEO CLEAN MULTI – REGULATION (EC) 1223/2009**

Above statement is valid for **AUGEO CLEAN MULTI** manufactured in Brazil  
*Information given above corresponds to the current status of our knowledge*  
*(July, 2020)*

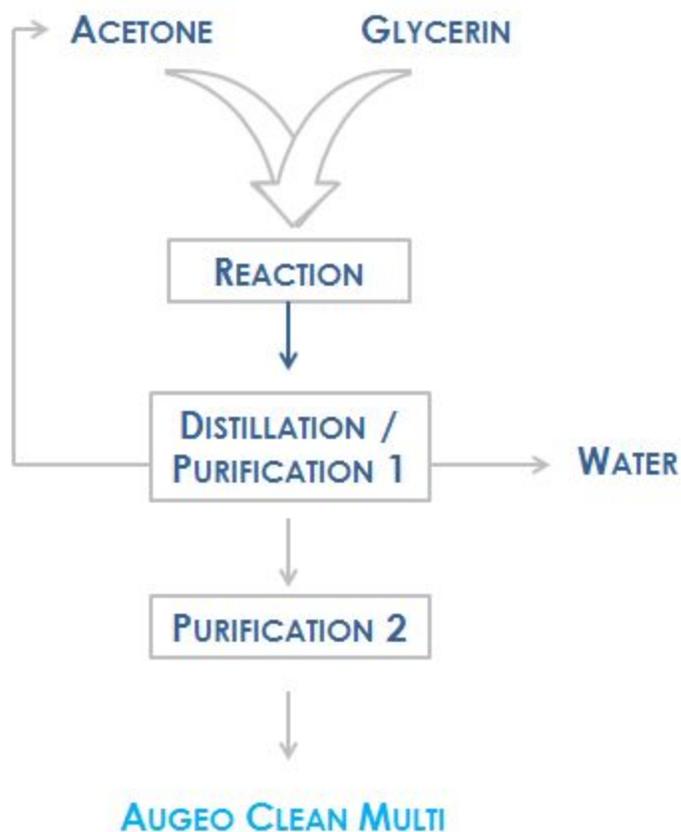
#### **LEGAL STATEMENT**

The above information is provided for our customers only (and we accept no liability to any third parties) and reflects our current knowledge and experience of the product. All products are supplied in accordance with our general terms and conditions for sale. We can accept no liability for the effects of any chemical combinations or mixtures of the product which are carried out by our customers or third parties. In using

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Ekokoza s.r.o. declares that **AUGEO CLEAN MULTI** is obtained from the acetalization reaction of glycerin. **AUGEO CLEAN MULTI** Process flow chart:



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### **AUGEO CLEAN MULTI – FLOW CHART**

Above statement is valid for **AUGEO CLEAN MULTI** manufactured in Brazil  
*Information given above corresponds to the current status of our knowledge  
(November, 2018)*

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## AUGEO CLEAN MULTI

Ekokoza s.r.o. declares that **AUGEO CLEAN MULTI** is obtained from the acetalization reaction of glycerin.

Regulations N° 1829/2003 and N°1830/2003 on genetically modified food and feed, provides the basis for ensuring a high level of protection of human life and health, animal health and welfare, environment and consumer interests in relation to genetically modified food and feed, whilst ensuring the effective functioning of the internal market.

On the basis of Directive 2001/18 / EC and the Regulations mentioned above, GMOs & food products derived from GMOs are subject to traceability and labeling requirements. These requirements do not apply to food & feed containing GMOs in a proportion no higher than 0.9% of the food/feed ingredients considered individually and if the presence is adventitious or technically avoidable.

**AUGEO CLEAN MULTI** is derived from glycerin of vegetable origin and according to information received from the raw material suppliers, glycerin can be originated from genetically modified soybean.

Glycerin is generally obtained from plant and animal sources where it occurs in triglycerides, esters of glycerol with long-chain carboxylic acids. The hydrolysis, saponification, or transesterification of these triglycerides produces glycerin. Therefore soya beans undergo a multi-step process (bean hull removal, bean flaking and conditioning, extraction & distillation) to extract soya oil which undergoes other additional manufacturing steps (chemical reaction, separation step, purification phase) for the final production of crude glycerin.



Nevertheless no genetically modified material, such as modified proteins or DNA, is expected to be detected in **AUGEO CLEAN MULTI** because glycerin is obtained after several steps of extraction and purification from the plant material (soya beans). This means that this raw material (glycerin) of GMO origin is not genetically modified itself even if it comes from a crop (soya plant) that is genetically modified.

This information is given for general purpose only. It is therefore under the sole responsibility and liability of the user to determine whether or not the use of **AUGEO CLEAN MULTI** is compatible with its own application and complies with applicable national laws and regulations, including those related to GMO (authorization of GMOs for food/feed uses, authorization of food/feed containing or consisting of GMOs, authorization of food/feed produced from or containing ingredients produced from GMOs, traceability and labelling requirements).

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## **AUGEO CLEAN MULTI – GMO**

Above statement is valid for **AUGEO CLEAN MULTI** manufactured in Brazil  
*Information given above corresponds to the current status of our knowledge*  
*March, 2021*

### **LEGAL STATEMENT**

The above information is provided for our customers only (and we accept no liability to any third parties) and reflects our current knowledge and experience of the product. All products are supplied in accordance with our general terms and conditions for sale. We can accept no liability for the effects of any chemical combinations or mixtures of the product which are carried out by our customers or third parties. In using the

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The United Kingdom (UK) has left the European Union (EU) officially on 31/01/2020, however the classification and labelling regime is still based on the existing EU regulatory regime during a transition period to provide continuity for businesses. Therefore this document is still aligned on EU standards to ensure the safe use of the substance. It will be updated as the UK publishes new classification and labelling regulation diverging from the legal framework currently applied.

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

### 1.1 Product identifier

- |                 |  |
|-----------------|--|
| - Trade name    | AUGEO® CLEAN MULTI   |
| - Chemical name | Racemic mixture (+/-)-2,2-dimethyl-4-hydroxymethyl-1,3-dioxolane |
| - CAS-No.       | 100-79-8   |

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

#### Uses of the Substance/Mixture

- Cleaning agent
- Waxes
- Stain removers and waxes removers
- Glass cleaner
- diluent and vehicle for fragrances

#### Remarks

- For professional and industrial installation and use only.

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

#### Company

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### 1.4 Emergency telephone number

Nouzové telefonní číslo: +420224919293 , +420224915402 (telefon 24hod/  
denně) Toxikologické informační středisko, Na Bojišti 1, 128 08 Praha2)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (Regulation (EC) No 1272/2008 )

Eye irritation, Category 2	H319: Causes serious eye irritation.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.

### 2.2 Label elements

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## **GB Harmonized System of Classification and Labelling of Chemicals (GB CLP)**

### **Pictogram**



### **Signal word**

- Warning

### **Hazard statements**

- H319 Causes serious eye irritation.
- H361d Suspected of damaging the unborn child.

### **Precautionary statements**

#### Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

#### Response

- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.

#### Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

### **2.3 Other hazards which do not result in classification**

None known.

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

### **3.1 Substance**

- Chemical name Racemic mixture (+/-)-2,2-dimethyl-4-hydroxymethyl-1,3-dioxolane
- Synonyms (+/-)-2,2-dimethyl-1,3-dioxolane-4-methanol, Isopropylidene glycerol
- Formula C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>

### **Information on Components and Impurities**

Chemical name	Identification number	Classification Regulation (EC) No 1272/2008	Concentration [%]
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	CAS-No. : 100-79-8 EINECS-No. : 202-888-7	Eye irritation, Category 2 ; H319 Reproductive toxicity, Category 2 ; H361d	>= 99 - <= 100

For the full text of the H-Statements mentioned in this Section, see Section 16.

### **3.2 Mixture**

- Not applicable, this product is a substance.

## **SECTION 4: First aid measures**

### **4.1 Description of first aid measures**

#### **General advice**

- First aider needs to protect himself.
- Show this safety data sheet to the doctor in attendance.
- Place affected clothing in a sealed bag for subsequent decontamination.

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- When symptoms persist or in all cases of doubt seek medical advice.

#### **In case of inhalation**

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

#### **In case of skin contact**

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with soap and plenty of water.
- Use a mild soap if available.
- If skin irritation occurs, seek medical advice/attention.

#### **In case of eye contact**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Immediate medical attention is required.

#### **In case of ingestion**

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician if necessary.

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

- no data available

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

- no data available

### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

- Extinguishing media - small fires
  - Water spray
  - Multi-purpose powders
  - Carbon dioxide (CO<sub>2</sub>)
  - Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)
- Extinguishing media - large fires
  - Water spray
  - Multi-purpose powders
  - Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)

##### **Unsuitable extinguishing media**

- Do not use a solid water stream as it may scatter and spread fire.

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

##### **Specific hazards during firefighting**

- Combustible liquid.
- The pressure in sealed containers can increase under the influence of heat.
- Hazardous decomposition products formed under fire conditions.
- High concentrations of toxic or harmful products may remain in the residual liquid once the fire has been extinguished.

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#### **Hazardous combustion products:**

- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

#### **5.3 Advice for firefighters**

##### **Special protective equipment for firefighters**

- Wear full protective clothing and self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

##### **Specific fire fighting methods**

- Stay upwind.
- Fight fire with normal precautions from a reasonable distance.
- Do not use a solid water stream as it may scatter and spread fire.
- Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### **Further information**

- Evacuate personnel to safe areas.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## **SECTION 6: Accidental release measures**

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

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment
- Wear suitable gloves.
- Wear suitable protective clothing.
- Wear as appropriate:
  - Face-shield
  - Tightly fitting safety goggles
- In the case of dust or aerosol formation use respirator with an approved filter.
- In the case of vapour formation use a respirator with an approved filter.
- Eliminate all ignition sources if safe to do so.
- Stop leak if safe to do so.
- For further information refer to section 8 "Exposure controls/personal protection".

### **6.2 Environmental precautions**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

### **6.3 Methods and materials for containment and cleaning up**

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- No sparking tools should be used.
- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
- Wash non-recoverable remainder with large amounts of water.
- Clean contaminated surface thoroughly.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.

#### **Additional advice**

- Material can create slippery conditions.

#### **6.4 Reference to other sections**

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

- Pregnant workers should not be exposed to this product.
- Handle in accordance with good industrial hygiene and safety practice.
- Wear personal protective equipment.
- Wear suitable protective clothing.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Avoid splashes.
- Avoid formation of aerosol.
- For personal protection see section 8.

### **Hygiene measures**

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

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

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### **Technical measures/Storage conditions**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep locked up or in an area accessible only to qualified or authorised persons.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: Stability-Reactivity).

### **Packaging material**

#### **Suitable material**

- Unlined steel
- Plastic container of HDPE

### **7.3 Specific end use(s)**

- no data available

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

- Contains no substances with occupational exposure limit values above their regulatory reporting threshold.

### **8.2 Exposure controls**

#### **Control measures**

##### **Engineering measures**

- Effective exhaust ventilation system
- Ensure adequate ventilation.
- Extract at emission point.
- Ensure that extracted air cannot be returned to the workplace through the ventilation system.
- Avoid splashes.
- Avoid formation of aerosol.

#### **Individual protection measures**

##### **Respiratory protection**

- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- Use a respirator with an approved filter if a risk assessment indicates this is necessary.

##### **Hand protection**

- Where there is a risk of contact with hands, use appropriate gloves
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

##### **Eye protection**

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- Tightly fitting safety goggles
- Face-shield

#### **Skin and body protection**

- Full protective suit
- Footwear protecting against chemicals
  
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### **Hygiene measures**

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
  
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

#### **Protective measures**

- Pregnant workers should not be exposed to this product.
- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use.
  
- The protective equipment must be selected in accordance with current CEN standards and in cooperation with the supplier of the protective equipment.

#### **Environmental exposure controls**

- Dam up.
- Prevent product from entering sewage system.
- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.
  
- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
  
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

## **SECTION 9: Physical and chemical properties**

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

<b><u>Physical state</u></b>	liquid
<b><u>Colour</u></b>	colourless
<b><u>Odour</u></b>	slight
<b><u>Odour Threshold</u></b>	No data available
<b><u>Melting point/freezing point</u></b>	<u>Freezing point</u> : -99 °C
<b><u>Initial boiling point and boiling range</u></b>	<u>Boiling point/boiling range</u> : 183 - 191 °C ( 1,013.25 hPa)

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<b><u>Flammability (solid, gas)</u></b>	No data available
<b><u>Flammability (liquids)</u></b>	No data available
<b><u>Flammability/Explosive limit</u></b>	No data available
<b><u>Flash point</u></b>	91 °C closed cup 100 °C open cup
<b><u>Auto-ignition temperature</u></b>	No data available
<b><u>Decomposition temperature</u></b>	No data available
<b><u>pH</u></b>	Not applicable
<b><u>Viscosity</u></b>	<u>Viscosity, dynamic</u> : 11 mPa.s ( 20 °C)
<b><u>Solubility</u></b>	<u>Water solubility</u> : ( 20 °C)completely soluble  <u>Solubility in other solvents</u> : Alcohol: miscible  Esters: miscible  Ether: miscible  Aromatic hydrocarbons: miscible  petroleum ether.: miscible  petrol: miscible
<b><u>Partition coefficient: n-octanol/water</u></b>	No data available
<b><u>Vapour pressure</u></b>	0.05 hPa ( 20 °C)
<b><u>Density</u></b>	1.069 g/cm <sup>3</sup> ( 20 °C)
<b><u>Relative density</u></b>	1.069 ( 20 °C)
<b><u>Relative vapor density</u></b>	2.6
<b><u>Particle characteristics</u></b>	No data available
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	0.027

## 9.2 Other information

<b><u>Self-ignition</u></b>	390 °C ( 1,013 hPa) Method: EU Test Guideline A15
<b><u>Surface tension</u></b>	33.5 mN/m ( 20 °C)
<b><u>Molecular weight</u></b>	132.16 g/mol

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

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- Stable at normal ambient temperature and pressure.

#### 10.2 Chemical stability

- Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

#### 10.4 Conditions to avoid

- Keep away from open flames, hot surfaces and sources of ignition.
- Avoid high temperatures.
- Avoid excessive heat for prolonged periods of time.

#### 10.5 Incompatible materials

- Strong oxidizing agents
- Strong acids
- On contact with acid releases:
- Acetone

#### 10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis) releases:
- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

##### **Acute oral toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50 : 7,000 mg/kg - Rat  
Not classified as hazardous for acute oral toxicity according to GHS.  
Published data

##### **Acute inhalation toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LC50 - 4 h ( aerosol ) : > 5,11 mg/l - Rat , male and female  
Method: OECD Test Guideline 403  
Not classified as hazardous for acute inhalation toxicity according to GHS.  
No mortality observed at this concentration.  
Unpublished reports

##### **Acute dermal toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50 : 2,000 mg/kg - Rat , male and female  
Method: OECD Test Guideline 402  
Not classified as hazardous for acute dermal toxicity according to GHS.  
Semioclusive  
No mortality observed at this dose.  
Unpublished reports

##### **Acute toxicity (other routes of administration)**

No data available

##### Skin corrosion/irritation

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Rabbit  
No skin irritation  
Method: OECD Test Guideline 404  
Semioclusive  
Unpublished reports

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### **Serious eye damage/eye irritation**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Rabbit  
Causes serious eye irritation.  
Method: OECD Test Guideline 405  
Unpublished reports

### **Respiratory or skin sensitisation**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Maximisation Test - Guinea pig  
Responding animals in GPMT < 30%  
Method: OECD Test Guideline 406  
Unpublished reports

### **Mutagenicity**

#### **Genotoxicity in vitro**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Ames test  
with and without metabolic activation  
  
negative  
Method: OECD Test Guideline 471  
Unpublished reports  
  
Gene mutation assays in mammalian cells.  
Strain: mouse lymphoma cells  
with and without metabolic activation  
  
negative  
Method: OECD Test Guideline 490  
Unpublished reports

#### **Genotoxicity in vivo**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol In vivo micronucleus test - Mouse  
male  
Intraperitoneal route  
Method: OECD Test Guideline 474  
  
negative  
Unpublished reports

### **Carcinogenicity**

No data available

### **Toxicity for reproduction and development**

#### **Toxicity to reproduction/Fertility**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Reproduction/developmental toxicity screening test - Rat, male and female, Oral  
  
General Toxicity - Parent NOAEL: 1,000 mg/kg bw/day  
Fertility NOEL: 1,000 mg/kg bw/day  
  
General Toxicity F1 NOEL: 1,000 mg/kg bw/day  
  
OECD Test Guideline 422  
Gavage, Highest dose tested, no impairment of fertility has been observed,  
Unpublished reports

#### **Developmental Toxicity/Teratogenicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Pre-natal - Rabbit, female, Oral



General Toxicity Maternal NOAEL: 300 mg/kg bw/day

Developmental Toxicity NOAEL F1: 300 mg/kg bw/day

Method: OECD Test Guideline 414

Gavage, Teratogenic effects have been observed, Unpublished internal reports

## **STOT**

### **STOT - single exposure**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.  
internal evaluation

### **STOT - repeated exposure**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.  
internal evaluation

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Oral 5 Weeks - Rat , male and female  
NOAEL: 1000 mg/kg  
Method: OECD Test Guideline 422  
Gavage  
Highest dose tested  
No systemic toxicity observed.  
Unpublished reports

Inhalation (aerosol) 90-day - Rat , male and female  
NOAEC: > 5 mg/l  
Method: OECD Test Guideline 413  
Highest dose tested  
No significant adverse effects were reported  
Unpublished reports

### **Experience with human exposure**

No data available

## **CMR effects**

### **Teratogenicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Classified as toxic for the reproduction in Category 2 (development) according to GHS criteria

### **Aspiration toxicity**

No data available

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

#### **Aquatic Compartment**

##### **Acute toxicity to fish**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LC50 - 96 h : 16,700 mg/l - Pimephales promelas (fathead minnow)  
flow-through test  
Analytical monitoring: yes

Method: according to a standardised method  
Not harmful to fish (LC/LL50 > 100 mg/L)  
Published data

##### **Acute toxicity to daphnia and other aquatic invertebrates**

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2,2-dimethyl-1,3-dioxolan-4-ylmethanol EC50 - 48 h : > 96 mg/l - Daphnia magna (Water flea)  
static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 202  
Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)  
Highest concentration tested  
Unpublished reports

EC50 - 48 h : 4,600 mg/l - Daphnia magna (Water flea)  
static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 202  
Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)  
Unpublished reports

#### **Toxicity to aquatic plants**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol ErC50 - 72 h : > 92 mg/l - Pseudokirchneriella subcapitata (green algae)  
static test  
Analytical monitoring: yes  
End point: Growth rate  
Method: OECD Test Guideline 201  
Not harmful to algae (EC/EL50 > 100 mg/L)  
Highest concentration tested  
Unpublished reports

NOEC - 72 h : 92 mg/l - Pseudokirchneriella subcapitata (green algae)  
static test  
Analytical monitoring: yes  
End point: Growth rate  
Method: OECD Test Guideline 201  
No adverse chronic effect observed up to and including the threshold of 1 mg/L.  
Highest concentration tested  
Unpublished reports

ErC50 - 72 h : 15,000 mg/l - Raphidocelis subcapitata (freshwater green alga)  
static test  
End point: Growth rate  
Method: OECD Test Guideline 201  
Not harmful to algae (EC/EL50 > 100 mg/L)  
Unpublished reports

NOEC - 72 h : 940 mg/l - Raphidocelis subcapitata (freshwater green alga)  
static test  
End point: Growth rate  
Method: OECD Test Guideline 201  
No adverse chronic effect observed up to and including the threshold of 1 mg/L.  
Unpublished reports

#### **Toxicity to microorganisms**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol - 3 h : - activated sludge  
static test  
End point: Respiration inhibition

EC50 : > 1,000 mg/l

EC10 : > 1,000 mg/l

Analytical monitoring: no  
Method: OECD Test Guideline 209  
Unpublished reports

#### **Chronic toxicity to fish**

No data available

#### **Chronic toxicity to daphnia and other aquatic invertebrates**

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2,2-dimethyl-1,3-dioxolan-4-ylmethanol NOEC: 10 mg/l - 21 Days - Daphnia magna (Water flea)  
semi-static test  
Analytical monitoring: yes  
End point: Reproduction  
Method: OECD Test Guideline 211  
No adverse chronic effect observed up to and including the threshold of 1 mg/L.  
Unpublished reports

### **Terrestrial Compartment**

#### **Toxicity to soil dwelling organisms**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol NOEC: 250 mg/kg - 56 Days - Eisenia fetida (earthworms)  
End point: Reproduction  
Method: OECD Test Guideline 222  
Unpublished reports

EC10: 1,250 mg/kg - 28 Days - soil micro-organisms  
End point: Nitrogen transformation  
Method: OECD Test Guideline 216  
Unpublished reports

## **12.2 Persistence and degradability**

### **Abiotic degradation**

#### **Stability in water**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol DT50:  
Hydrolysis  
pH: 4.0

Temperature of hydrolysis: 15 °C  
Hydrolysis time: 6.59 Days

Temperature of hydrolysis: 20 °C  
Hydrolysis time: 3.51 Days

Temperature of hydrolysis: 25 °C  
Hydrolysis time: 0.959 Days

Method: OECD Test Guideline 111  
Unpublished reports

### **Physical- and photo-chemical elimination**

No data available

### **Biodegradation**

#### **Biodegradability**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Ready biodegradability study:  
Method: OECD Test Guideline 301 D  
4 % - 28 Days  
The substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability  
Theoretical oxygen demand  
Inoculum: activated sludge  
Unpublished reports

Inherent biodegradability study  
Method: OECD Test Guideline 302 B  
25 % - 28 Days  
The substance fulfills the criteria for inherent primary biodegradability  
Dissolved organic carbon (DOC)  
Inoculum: activated sludge  
Unpublished internal reports

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#### Degradability assessment

2,2-dimethyl-1,3-dioxolan-4-ylmethanol The product is not considered to be rapidly degradable in the environment

#### 12.3 Bioaccumulative potential

##### **Partition coefficient: n-octanol/water**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

##### **Bioconcentration factor (BCF)**

No data available

#### 12.4 Mobility in soil

##### **Adsorption potential (Koc)**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

Adsorption/Soil  
Log Koc: < 1.25  
Method: OECD Test Guideline 121  
Highly mobile in soils  
Unpublished reports

##### **Known distribution to environmental compartments**

No data available

#### 12.5 Results of PBT and vPvB assessment

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).  
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

#### 12.6 Other adverse effects

##### **Ecotoxicity assessment**

##### **Short-term (acute) aquatic hazard**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L)

##### **Long-term (chronic) aquatic hazard**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

No adverse chronic effect observed up to and including the threshold of 1 mg/L.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

##### **Product Disposal**

###### ***Prohibition***

- Do not discharge directly into the environment.
- Dispose of in accordance with local regulations.

##### **Advice on cleaning and disposal of packaging**

###### ***Prohibition***

- Do NOT dispose of untreated packaging with industrial waste.
- Do not dispose of with domestic refuse.
- Empty remaining contents.
- Clean using steam.
- Monitor the residual vapours.
- Dispose of rinse water in accordance with local and national regulations.

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- Containers that cannot be cleaned must be treated as waste.
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
- Where possible recycling is preferred to disposal or incineration.
- The recycled material must be completely dry and free of pollutants.

## SECTION 14: Transport information

### ADN/ADNR

not regulated

### ADR

not regulated

### RID

not regulated

### IMDG

not regulated

### IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

## SECTION 15: Regulatory information

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

#### Notification status

<b>Inventory Information</b>	<b>Status</b>
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is

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	compliant with the registration" provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Solvay legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

## 15.2 Chemical safety assessment

- no data available

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

- H319: Causes serious eye irritation.
- H361d: Suspected of damaging the unborn child.

### Key or legend to abbreviations and acronyms used in the safety data sheet

- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

**Not all acronyms listed above are referenced in this SDS.**

### Further information

- Distribute new edition to clients

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.

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## REFERENCE

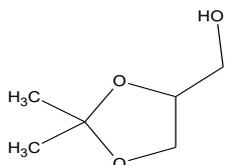
UQP-2-SOL-FP-099 version: 08

May 2019

## IDENTIFICATION

CAS NUMBER: 100-79-8  
INCI Isopropylidenglycerol

STRUCTURAL FORMULA:



MOLECULAR FORMULA:  $C_6H_{12}O_3$   
MOLECULAR WEIGHT: 132.16

## SYNONYMS

Di-Isopropylidene Glycerol; 2,2-Dimethyl-4-Hydroxymethyl-1,3-Dioxolane; 2,2-Dimethyl-1,3-Dioxolane-4-Methanol.

## SPECIFICATIONS

DETERMINATIONS	LIMITS	SOLVAY METHOD	REFERENCE DOCUMENT
APPEARANCE	Clear Liquid	NA – 0199	ASTM D-2090
PURITY*, (wt.%), MIN.	99.50	NA – 1759	SOLVAY
SPECIFIC GRAVITY 20/20°C	1.067 – 1.071	NA – 0497	ASTM D-4052
COLOR, (Pt-Co), MAX	10.0	NA – 1726	ASTM D-1209
ACIDTY AS ACETIC ACID, (wt.%), MAX.	0.02	NA – 0433	ASTM D-1613
WATER, (wt.%), MAX	0.10	NA – 1760	ASTM D-1364

\* Purity: Di-Isopropylidene Glycerol + Isomer (2,2-Dimethyl-5-Hydroxy-1,3-Dioxane; typical content: 1.4%)

## GENERAL CHARACTERISTICS

AUGEO CLEAN MULTI is a colorless and clear liquid, non-corrosive, low volatility and low toxicity, slight odor. It is miscible in common organic solvents and water.

## MAIN APPLICATIONS

AUGEO CLEAN MULTI is a solvent from a renewable source developed for surface care segment into homecare and industrial & institutional markets, the main applications are multipurpose cleaners, waxes, polishes and polish removers, degreasers, glass cleaners and specialty cleaners. It is also applied as a diluent and carrier for fragrance and in the personal care segment.

AUGEO CLEAN MULTI is a Ketal and presents good stability in neutral and alkaline pH, in aqueous and non-aqueous solutions at any temperature.

However, it cannot be manipulated in acid step of process in presence of water or in acidic aqueous formulations, because it can degrade under these conditions.

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## PHYSICAL PROPERTIES

• Boiling range at 760 mmHg (°C)	.....	183 - 191
• Freezing point (°C)	.....	-99.0
• Liquid density 20/20°C	.....	1.069
• Solubility at 20°C	In water.....	Complete
	Water in.....	Complete
• Kauri-butanol value	.....	>500
• Evaporation rate (n-butyl acetate = 100)	.....	2.7
• MIR <sup>(1)</sup> (Maximum Incremental Reactivity)	g O <sub>3</sub> /g VOC.....	2.01
• Flash point (°C)	Closed cup.....	91.0
	Open cup.....	100.0
• Viscosity at 20°C (cPs)	.....	11

(1)- Potential ozone formation catalyzed by sunlight

## SHELF LIFE

The expiration date is 18 months from the manufacture date, defined through laboratories studies. External factors may influence in the date described. **Solvay** is not responsible for the observance of the necessary conditions to the maintenance of the expiration date after the delivery of the product to the acquirer.

## TRANSPORT, STORAGE AND SAFETY INSTRUCTIONS

Please consult our "Safety Data Sheet".

The information contained in this document is supplied in good faith. However it is purely given as an indication. It shall not be considered in any way as a formal commitment or warranty on our part, notably in respect of the possible infringement of any rights of third parties which may be caused through use of our product.

## TECHNICAL ASSISTANCE

The technical staff of **Solvay** is at your disposal to give more information about this product.

This specialized staff works with a technically advanced laboratory for the development of solvent systems.

*All the information contained in this document is supplied in good faith and is based in our current knowledge. They are only indicative and do not in any way, configure responsibility for infractions or damages to third persons due to the use of our products. We guarantee that our products fully comply with our commercial specifications*

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