 <b>CSGI</b> <small>Consorzio Interuniversitario per lo Sviluppo dei Sistemi a Grande Interfase Center for Colloid and Surface Science</small>	<b>deffner &amp; Johann</b>
<b>NANORESTORE PLUS PROPANOL 5</b> : Art. Nr.:2091 004	
<p style="text-align: center;"><b>MATERIAL SAFETY DATA SHEET</b> In accordance with Regulation (EC) 1907/2006 and Regulation 830/2015</p>	

### Safety Data Sheet dated 12/02/2016

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

##### 1.1. Product identifier

Mixture identification:

Trade name: NANORESTORE PLUS PROPANOL 5

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

Product for the conservation of cultural heritage

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

Company:

CSGI – Consorzio Interuniversitario per lo Sviluppo dei Sistemi a Grande Interfase  
Via della Lastruccia 3  
50019 Sesto Fiorentino, FI

##### 1.4. Emergency telephone number




+39 055 457 3034

e-mail: products@csgi.unifi.it

#### SECTION 2: Hazards identification

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

EC regulation criteria 1272/2008 (CLP):

-  Danger, Flam. Liq. 2, Highly flammable liquid and vapour.
-  Warning, Eye Irrit. 2, Causes serious eye irritation.
-  Warning, STOT SE 3, May cause drowsiness or dizziness.

Adverse physicochemical, human health and environmental effects:  
No other hazards

##### 2.2. Label elements

Symbols:



Danger

Hazard Statements:

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use CO<sub>2</sub>, foam, chemical powder for flammable liquids to extinguish.

Special Provisions:

None

Contents:

propan-2-ol

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

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### SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.


3.2. Mixtures

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and corresponding classification:

>= 98% propan-2-ol

603-117-00-0, CAS: 67-63-0, EC: 200-661-7

F,Xi; R11-36-67

 2.6/2 Flam. Liq. 2 H225


 3.3/2 Eye Irrit. 2 H319

 3.8/3 STOT SE 3 H336

>= 1% - < 2.5% Calcium Hydroxide

CAS: 1305-62-0, EC: 215-137-3

Xi; R37/38-41

 3.2/2 Skin Irrit. 2 H315

 3.3/1 Eye Dam. 1 H318

 3.8/3 STOT SE 3 H335

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### SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

After contact with skin, wash immediately with soap and plenty of water.

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

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## SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

CO2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

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## SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Always keep the containers tightly closed.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters

propan-2-ol - CAS: 67-63-0

TLV TWA - ppm 200 A4

TLV STEL - ppm 400 A4

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

None

Environmental exposure controls:

None

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:	Milky liquid
Odour:	Characteristic
Odour threshold:	N.A.
pH:	11
Melting point / freezing point:	-89.5 °C

Initial boiling point and boiling range: 82 °C

Solid/gas flammability: N.A.

Upper/lower flammability or explosive limits: 2 Vol % - 12 Vol %

Vapour density: N.A.

Flash point: 12 °C

Evaporation rate: N.A.

Vapour pressure: 43 hPa (at 20 °C)

Density: 0.785 g/cm<sup>3</sup>

Solubility in water: 1 g/L

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Ignition temperature: 425 °C

Decomposition temperature: N.A.

Viscosity: 2.43 mPas

Explosive properties: N.A.

Oxidizing properties: N.A.

9.2. Other information

Miscibility: N.A.

Fat Solubility: N.A.

Conductivity: N.A.

Substance Groups relevant properties N.A.

## SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

- None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
Avoid contact with combustible materials. The product could catch fire.
- 10.6. Hazardous decomposition products  
None.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

N.A.

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### SECTION 12: Ecological information

- 12.1. Toxicity  
Adopt good working practices, so that the product is not released into the environment.  
N.A.
- 12.2. Persistence and degradability  
None  
N.A.
- 12.3. Bioaccumulative potential  
N.A.
- 12.4. Mobility in soil  
N.A.
- 12.5. Results of PBT and vPvB assessment  
vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects  
None

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### SECTION 13: Disposal considerations

- 13.1. Waste treatment methods  
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

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### SECTION 14: Transport information

- 14.1. UN number  
ADR- ONU: 1219
- 14.2. UN proper shipping name  
ADR-Shipping Name: ISOPROPANOL
- 14.3. Transport hazard class(es)  
FLAMMABLE
- 14.4. Packing group  
II
- 14.5. Environmental hazards  
N.A.
- 14.6. Special precautions for user  
N.A.
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
Environmental Pollutant:  
No

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### SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances)  
Dir. 99/45/EC (Classification, packaging and labelling of dangerous preparations)  
Dir. 98/24/EC (Risks related to chemical agents at work)  
Dir. 2000/39/EC (Occupational exposure limit values)  
Dir. 2006/8/EC  
Regulation (EC) n. 1907/2006 (REACH)  
Regulation (EC) n. 1272/2008 (CLP)  
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 453/2010 (Annex I)  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restriction 40

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 82/501/EEC ('Activities linked to risks of serious accidents') and subsequent amendments.

Regulation (EC) nr 648/2004 (detergents).

15.2. Chemical safety assessment

No

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## SECTION 16: Other information

Text of phrases referred to under heading 3:

R11 Highly flammable.  
R36 Irritating to eyes.  
R37/38 Irritating to respiratory system and skin.  
R41 Risk of serious damage to eyes.  
R67 Vapours may cause drowsiness and dizziness.

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification  
SECTION 3: Composition/information on ingredients  
SECTION 4: First aid measures  
SECTION 8: Exposure controls/personal protection  
SECTION 11: Toxicological information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold  
CCNL - Appendix 1  
Insert further consulted bibliography

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.