

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**
Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

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

1.1. Product identifier

Product name

LiquidNano™ Super Glass

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

Relevant identified uses

Easy-clean coating for glass and glazed ceramic.

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Distributor

LiquidNano, Inc.
Address: 161 Ainsley Road Hertford, NC 27944
E-mail: info@liquidnano.com

1.4. Emergency telephone number

Poison Control Center 1-800-222-1222

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Flam. Liq. 2; H225 Highly flammable liquid and vapour.
Eye Irrit. 2; H319 Causes serious eye irritation.

2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]



Signal word: **Danger**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

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

P240 Ground and bond container and receiving equipment.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with national regulation.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

2.2.2. Contains:

-

2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

No information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
ethanol	64-17-5 200-578-6 603-002-00-5	>94	Flam. Liq. 2; H225 Eye Irrit. 2; H319		01-2119457610-43
butanone	78-93-3 201-159-0 606-002-00-3	<5	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336		01-2119457290-43

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

When in doubt or if feeling unwell seek medical assistance. Show the safety data sheet and label to the physician. Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention.

Following eye contact

If the patient is wearing contact lenses, remove them immediately. Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! In case of doubt or if feeling unwell seek medical help. Show the physician the safety data sheet or label. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

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

Inhalation

Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation.

Skin contact

Contact with skin may cause irritation (redness, itching).

Eye contact

Redness, tearing, pain.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**
Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

Ingestion

May cause abdominal discomfort.
May cause nausea/vomiting and diarrhea.

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

Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated:
carbon monoxide (CO), carbon dioxide (CO₂).
Sulphuric oxides (SO_x).

5.3. Advice for firefighters

Protective actions

Prolonged heating can cause an explosion. Vapours can form explosive mixtures with air. In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Emergency procedures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking! Prevent access to unprotected personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate the danger zone. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. In case of release into the environment, inform the relevant authorities.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Use spark-proof tools. Ventilate the premises. Use only explosion-proof instruments and equipment. Prevent release into the sewer, water, basements or confined areas.

6.3.3. Other information

-

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation. Take precautionary measures against static discharges. Keep away from sources of ignition - no smoking. Use spark-proof tools. Vapours are heavier than air and spread along the floor. They form explosive mixtures with air.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Do not discharge into drains, surface water and soil. After use immediately close container tightly.

7.1.2. Advice on general occupational hygiene

Do not eat, drink or smoke while working. Do not breathe vapours/mist. Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with skin, eyes and clothes. Remove contaminated clothes and wash them before reuse. Wear suitable protective equipment; see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Store in accordance with local regulations. Protect from open fire, heat and direct sunlight. Keep away from food, drink and animal feeding stuffs. Keep away from oxidising substances. Keep away from sources of ignition - no smoking. Keep in a cool, dry and well ventilated place.

7.2.2. Packaging materials

Store only in original container.

7.2.3. Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

-

Industrial sector specific solutions

-

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**
Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

Name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m ³ (ppm)	mg/m ³	ml/m ³ (ppm)	mg/m ³		
Ethanol (64-17-5)	1000	1920				
Butan-2-one (methyl ethyl ketone) (78-93-3)	200	600	300	899	Sk, BMGV	70 µmol butan-2-one/L in urine - Post shift
Sulphuric acid (mist) (7664-93-9)		0,05			The mist is defined as the thoracic fraction	

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

No information.

8.1.4. PNEC values

No information.

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Do not breathe vapours/aerosols. Use good personal hygiene practices – wash hands at breaks and when done working with material. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration. Keep away from food, drink and animal feeding stuffs.

8.2.2. Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374). The penetration time is determined by the protective glove manufacturer and must be observed. Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387).

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

Thermal hazards

-

8.2.3. Environmental exposure controls

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

- Physical state:	liquid
- Colour:	according to specification
- Odour:	characteristic

Important health, safety and environmental information

- pH	No information.
- Melting point/freezing point	No information.
- Initial boiling point/boiling range	No information.
- Flash point	<14°C
- Evaporation rate	No information.
- Flammability (solid, gas)	No information.
- Explosion limits (vol%)	No information.
- Vapour pressure	No information.
- Vapour density	No information.
- Density	Relative density: 0,794
- Solubility	No information.
- Partition coefficient	No information.
- Auto-ignition temperature	No information.
- Decomposition temperature	No information.
- Viscosity	No information.
- Explosive properties	No information.
- Oxidising properties	No information.

9.2. Other information

- Remarks:	
-------------------	--

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

Vapours and air can form flammable or explosive mixtures.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

10.4. Conditions to avoid

Protect from heat, direct sunlight, open fire, sparks.

10.5. Incompatible materials

Oxidants.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
butanone (78-93-3)	oral	LD 50	rat		> 2193 mg/kg	OECD 423	
butanone (78-93-3)	inhalation	LC 50	rat	4 h	34 mg/l		
butanone (78-93-3)	dermal	LD 50	rabbit		> 5000 mg/kg	OECD 402	

Additional information: The product is not classified for acute toxicity.

(b) Skin corrosion/irritation

No information.

(c) Serious eye damage/irritation

Additional information: Causes serious eye irritation.

(d) Respiratory or skin sensitisation

Additional information: The product is not classified as sensitising.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

Additional information: STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure

Additional information: STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

Additional information: Aspiration hazard: Not classified.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**
Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

No information.

12.1.2. Chronic (long-term) toxicity

No information.

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

No information.

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

No information.

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

No information.

12.5. Results of PBT and vPvB assessment

No evaluation.

12.6. Other adverse effects

No information.

12.7. Additional information

For product

Product is not classified as dangerous for environment.
Do not allow to reach ground water, water courses or sewage system.
Water hazard class 1 (self-assessment): slightly hazardous for water.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Do not allow product to reach drains/sewage systems.

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

Packaging

Dispose of in accordance with applicable waste disposal regulation. Uncleaned containers are classified as hazardous waste - they should be handled in the same manner as the contents. Deliver completely emptied containers to approved waste disposal authorities. Uncleaned containers should not be perforated, cut or welded. Empty containers represent a fire hazard as they may contain flammable product residues and vapour.

13.1.2. Waste treatment-relevant information

-

13.1.3. Sewage disposal-relevant information

-

13.1.4. Other disposal recommendations

-

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

UN 1170 -

14.2. UN proper shipping name

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. Transport hazard class(es)

3

14.4. Packing group

II

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Limited quantities

1 L

Tunnel restriction code

(D/E)

IMDG flashpoint

14 °C, c.c.

IMDG EmS

F-E, S-D

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Goods may not be carried in bulk in bulk containers, containers or vehicles.



SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **LiquidNano™ Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.1.2. Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

-

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes

IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **7601 Super Glass**

Creation date: **21.12.2018** · Revision: **28.2.2019** · Version: **1**

MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

-

List of relevant H phrases

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.