GOGONANO™
Nanotechnology made simple

# MATERIAL SAFETY DATA SHEET
# PROTECTION AGENT FOR PAINTS AND GLASS

## 1 Identification of the substance/preparation and of the company/ enterprise

1.1 Trade name: GoGoNano – Liquid Shield

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Application of the substance / the preparation:
Finishing of paint and coatings
Cleaning and protecting glass
Industrial applications

1.3 Manufacturer: Digital Trade Solutions OÜ
Kose mnt 28-13
74310, Kehra
Estonia

1.4 Emergency telephone number: +372 56470784

## 2 Hazards identification (#)

**2.1 Classification of the mixture:**
Classification according to directive 1272-2008-EC
The mixture causes skin irritation category 2 with H315: causes skin irritation.

**2.2 Labelling elements:**
Labelling according to directive 1272-2008-EC
**skin irrit.2**

Hazard pictogram: GHS 07

**Signal word:**
Warning

**Hazard Statement(s):**
H315: causes skin irritation

**Precautionary Statements:**
P280: Wear protective gloves.

P262: Do not get in eyes, on skin, or on clothing.
P302 + P352: IF ON SKIN: Wash with plenty of water/ soap.
P332 + P313: If skin irritation occurs: Get medical advice/attention

**2.3 Other hazards:**

| | |
|---|---|
| Physical/ Chemical hazards: | a small quantity of ethanol can be generated during use. |
| Health hazards: | with normal use, no immediate hazards. |
| Environmental hazards: | slightly hazardous for water. |

## 3 Composition and information on ingredients (#)

**3.1 Substances:** not applicable. This product is a mixture.
**3.2 Mixtures:**

Components of the mixture:

| Ingredients | CAS-nbr.<br>EC-nbr<br>Reg.nbr<br>Index nbr | GHS-CLP classification | H-phrases | Weight% in mixture |
|---|---|---|---|---|
| Triethoxyoctyl-Silane | 2943-75-1<br>220-941-2<br>01-2119972313-39 | Skin irrit.2 | H315 | 50-100% |
| Isopropyl alcohol | 67-63-0<br>200-661-7 | Flam.liq.2<br>Eye irrit.2<br>Skin irrit.3<br>STOT SE 3 | H225<br>H319<br><br>H336 | 1,3% |
| Ethanol | 64-17-5<br>EG 200-578-6 | Flam.liq.2 | H225 | 0.5% |
| 2-butoxyethanol | 111-76-2<br>203-905-0 | Acute tox.3 dermal<br>Acute tox.3 inhalation<br>Acute tox. 4 oral<br>Skin irrit.2<br>Eye irrit.2 | H311<br>H311<br>H302<br>H315<br>H315 | |
| 2-methyl-2,4-pentanediol | 107-41-5<br>203-489-0 | Eye irrit.2A<br>STOT SE 3 | H319<br>H336 | 0,5% |
| Water | 007732-18-5<br>231-791-2 | - | - | Up to 100 % |

Concentrations in weight percentage
See section 16 for the full text of the H-phrases.

## 4 First aid measures

**4.1 Description**

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|---|---|
| **In general:** | immediately remove soiled, soaked clothing. |
| **Inhalation:** | provide fresh air. In case of complaints, consult a physician. |
| **Skin contact:** | if contact with skin, immediately wash with water and soap.<br>In case of long-term skin irritation, consult a physician. |
| **Eye contact:** | Keep eyelids open and rinse immediately and thoroughly for at least 5 minutes with plenty of water, possibly with an eye rinse solution. In case of persistent complaints, consult an ophthalmologist. |
| **Ingestion:** | rinse mouth thoroughly with water.<br>Give immediately plenty of water to drink in small sips (dilution effect).<br>In case of complaints, consult a physician. |

**4.2 Important acute and delayed symptoms and effects:** skin irritation.

**4.3 Indication of the required immediate medical care and special treatment:** treat symptomatically.
If larger quantities are swallowed, administer activated carbon.
Acceleration of the stomach-intestinal transit

## 5 Measures for fire fighting

**5.1 Extinguishing agents**

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|---|---|
| **Suitable extinguishing agents:** | alcohol resistant foam, carbon dioxide, dry powder, water jet |
| **Unsuitable extinguishing agents:** | full water jet |

**5.2 Particular hazards for fire fighting**

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| **Hazardous combustion products:** | In case of fire, carbon monoxide, carbon dioxide, smoke, vapour and incomplete combustion products can be released. |

**5.3 Advice for fire fighters**

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| **Instructions for fire fighting:** | Use (sprayed) water to cool neighbouring packages and constructions. Extinguishing water should not flow into sewers, ground water or open surface waters. If it occurs, inform authorities. Take measures to collect extinguishing water. Use standard protection gear and in closed rooms, use an independent breathing device. |
| **Unusual fire hazards:** | unknown |

| | |
|---|---|
| **Properties of flammability:** | > 93 °C, Method: DIN EN ISO 2719 Pensky-Martens, Closed Cup |

## 6 Measures in the event of accidental release of the substance or preparation

**6.1 Personal precautions, protective gear and emergency procedures.**

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|---|---|
| **Indication:** | In case of accidental release, inform appropriate authorities and apply the legislation in force. |
| **Protective measures:** | avoid contact with eyes, skin and clothing. Avoid contact with product and vapours. Wear personal protection gear. |
| **6.2 Environmental precautions:** | should not flow into sewers, soil, ground water or open surface waters. |
| **6.3 Clean up methods and material:** | |
| **On the ground:** | Soak up with inert absorbent material. Put into a suitable container for waste disposal. |
| **On water:** | forms an emulsion. |
| **Neutralization:** | n/a |
| **Disposal:** | Dispose in a safe manner according to local and national regulations. |
| **6.4 Referral to other sections:** | for further information about monitoring exposure and disposal, refer to sections 8 and 13. |

## 7 Handling and storage

**7.1 Precautions for safe handling of the mixture:**

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|---|---|
| **Handling:** | Avoid contact with eyes, skin and clothing. Avoid inhalation of vapours and aerosols. Provide sufficient ventilation. Wash hands before every break and immediately after the use of the product. |
| **Loading and unloading temperature:** | ambient temperature |
| **Transport temperature:** | ambient temperature |

**7.2 Safe storage conditions including incompatible products:**

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|---|---|
| **Storage temperature:** | store at temperatures between 5 and 30°C. For quality reasons: do not expose to temperatures below the freezing point. |
| **Suitable packaging:** | LDPE buckets, 25 KG and smaller, packaging suitable for injection equipment. |
| **Suitable materials and coatings:** | poly-ethylene, poly-propylene, carbon steel, stainless steel. |
| **Unsuitable materials and coatings:** | do not use materials which are corroded by water. |
| **7.3 specific final uses:** | see section 1 for identified final use. |

## 8 Measures to control exposure - personal protection (#)

### 8.1 Control parameters / exposure limits

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|---|---|
| **MAC values:** | The product does not contain substances for which MAC values are determined. |
| **DNEL / DMEL values:** | DNEL / DMEL values are not available. |
| **PNEC values:** | PNEC values are not available. |

### 8.2 Measures for exposure control/ Personal protection

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|---|---|
| **Respiratory protection** | In case of development of vapours/ aerosols: short-term use, filtering device, combination filter A-P2 |
| **Hand protection:** | glove material For example, butyl rubber<br>Material strength 0,5 mm<br>Penetration time >= 480 min<br>For example, fluorocarbon rubber (viton)<br>Material strength 0,4 mm<br>Penetration time >= 480 min |
| **Eye protection:** | well fitted safety goggles |
| **Skin and body protection** | Wear suitable clothing for the method of use. |
| **Specific hygiene measures** | Do not eat, drink or smoke during use. Wash hands and/or face before every break and after use. |
| **Environmental control** | Take necessary measures to prevent product from flowing into the environment. |

## 9 Physical and chemical properties

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|---|---|
| Phase: | Highly viscous gel |
| Colour: | white |
| Odour: | slight, ester-like |
| pH: | neutral, 6.5 – 7.5 |
| Freezing point (°C): | not available |
| Stability: | 3 °C to 40 °C |
| Application temperature | 15 °C to 35 °C |
| Melting point (°C): | not available |
| Boiling point (°C): | not available |
| Decomposition temperature (°C): | not available |
| Viscosity, dynamic | 2 mPas (20 °C), method: DIN 53 015 |
| Specific density (Kg/dm$^3$) | 0.92 (#) |
| Relative density vs. water: | 0.92 (#) |
| Viscosity, dynamic | 100 - 1.500 mPas at 25 °C |
| Bulk density (Kg/m³): | not applicable |
| Vapour pressure (kPa): | cfr. water |

| | |
|---|---|
| Solubility in water (g/ 100 ml): | miscible |
| Flash point (°C): | > 93 °C, Method: DIN EN ISO 2719 Pensky-Martens, Closed Cup |
| Self ignition temperature (°C): | not applicable |
| Explosiveness: | not explosive |
| Explosion limit - lower (°C): | 0,5 % (V)(200 °C) method: DIN EN 1839 |
| Explosion limit – upper (°C): | > 13,5 %(V) (200 °C) method: DIN EN 1839 |
| Log P octanol / water at 20 °C: | not applicable |
| Evaporation speed: | cf. Water |
| Oxidation – properties: | cf. Water |
| Specific conductivity (S/m): | cf. Water |

## 10 Stability and reactivity

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|---|---|
| **10.1 Reactivity** | reacts with acids, forming ethanol. |
| **10.2 Chemical stability:** | stable under normal circumstances. |
| **10.3 Potential hazardous reactions:** | heat development |
| **10.4 Circumstance to be avoided:** | other than normal use, avoid evaporation of the emulsion. Prevent from freezing. |
| **10.5 Chemical reactive substances:** | not known |
| **10.6 Hazardous decomposition products:** | product does not decompose at room temperature |

## 11 Toxicological information

**These data are for n-octyltriethoxysilane, the most important component of the preparation.**

### 11.1 Toxicological information

| | |
|---|---|
| **Acute oral toxicity:** | LD50 rat: > 5110 mg/kg<br>method: OECD Test Directive 401 |
| **Acute inhaling toxicity:** | LC0 rat: 22 ppm / 4 h / vapour<br>method: OECD Test Directive 403<br>maximum reachable concentration in the test: no animal died. |
| **Acute dermal toxicity:** | LD50 rabbit: 6730 mg/kg<br>Method: OECD Test Directive 402 |
| **Skin irritation** | rabbit irritating<br>method: OECD Test Directive 404 |
| **Eye irritation:** | rabbit not irritating<br>method: OECD Test Directive 405 |
| **Sensitisation:** | Maximizing test guinea pig: Has no sensitizing effect.<br>method: OECD Test Directive 406<br>test material: structurally similar substance |
| **Repeated dose toxicity:** | Oral rat / 28 days<br>NOAEL: 300 mg/kg, method:<br>OECD TG 422 |

| | |
|---|---|
| **STOT single exposure:** | The substance of the mixture is not classified as toxic to specific target organ, single exposure. |
| **STOT repeated exposure:** | The substance of the mixture is not classified as toxic to specific target organ, repeated exposure. |
| **Aspiration toxicity:** | no indications related to aspiration toxicity |
| **Gene toxicity in vitro:** | Ames test Salmonella typhimurium, negative, method: OECD TG 471<br>Chromosomal aberration Chinese hamster (CHO K1 -cells) negative, method: OECD TG 473 |
| **Gene mutation in infant cells:** | TK +/- mouse-lymphoma cells (L5178Y), negative, method: OECD TG 476 |
| **Carcinogenicity:** | no data available |
| **Toxicity related to reproduction:** | Screening of toxicity for reproduction/ developmental toxicity: Oral rat, exposure frequency: daily<br>NOAEL (No Observed Adverse Effect Level) parents method: OECD TG 422<br>Screening of toxicity for reproduction/ developmental toxicity: Oral rat, exposure frequency: daily<br>NOAEL F1: 300 mg/kg, method: OECD TG 422 |

## 12 Environmental information

**12.1 Toxicity**

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|---|---|
| **Toxicity for fish:** | In the context of water solubility, the product is not toxic under testing circumstances. |
| **Toxicity for bacteria:** | EC50 Organic mud municipal purification: > 1000 mg/l / 3 h, method: OECD TG 209<br>NOEC Organic mud municipal purification: >= 1000 mg/l / 3 h, method: OECD TG 209 |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biological degradability** | Exposure time: 28 d, 31,5 % Not easily biodegradable, method: OECD TG 301 D |
| **12.3 Bioaccumulation** | not bioaccumulative |
| **12.4 Mobility in the soil** | absorption within the soil: low. |
| **12.5 Results of PBT and vPvB assessment** | according to the REACH criteria no PBT-, vPvB-mixture. |

**12.6 Other harmful effects**

| | |
|---|---|
| **Other ecological information** | the available data do not lead to environmental hazards. |

## 13 Instructions for safe disposal

**13.1 Waste processing methods**
**Product:**
Can be incinerated if in accordance with local legislation or disposed taking into consideration the necessary technical regulations and in consultation with a certified processor.

**Contaminated packaging**
Dispose as unused product.

**Waste code number**
The waste code number has to be determined in accordance with the European waste code list, 2000/532/EC in consultation with the waste processor/ manufacturer/ authorities.
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## 14 Transport information

**Transport / more information**

ADR / IATA-DGR: the preparation is not considered as a hazardous chemical substance according to the National and International laws and regulations related to the transport of hazardous chemical substances.
Keep away from food and animal feed.

**14.1. UN-number:** -
**14.2. Proper shipping name according to UN Model Regulations:** -

**14.3. Transport hazard class:** -
**14.4. Packaging group:** -
**14.5. Environmental hazards:** -
**14.6 Special user precautions:** -

## 15 Regulatory information

**Regulatory status and applicable laws and regulations**
**15.1 specific laws and regulations concerning the safety, health and environment for the substance or the mixture.**

**The following EC directives and regulations are applicable**

98/24/EC concerning the protection of the employees against the risk of chemical substances on the work floor.
1272/2008/EC concerning the classification, labelling and packaging of substances and mixtures.
453/2010/EC, registration and assessment of chemical substances - REACH

**15.2 chemical safety assessment**
REACH information: a chemical safety assessment has been performed for one or more substances present in the product. A safety assessment of the mixture has not been performed, meaning that the DNEL and PNEC values of the mixture are unknown.

## 16 Further information

This safety information sheet has been edited according to 453/2010/EC.
This safety information sheet is exclusively meant for industrial and professional use.
Text of the H-phrases referenced under section 3:

H225: Highly flammable liquid and vapour.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

| | |
|---|---|
| **MSDS Page**: | upper right corner, first line |
| **MSDS Revision**: | upper right corner, second line |
| **Revision date**: | upper right corner, third line |
| **Date previous revision**: | upper right corner, fourth line |
| **Manufacturer:** | Digital Trade Solutions OÜ |
| **Revised parts:** | Sections 2-3 were adapted according to CLP directives. The sections 8 and 16 were reviewed. changes with reference to previous versions are marked with "#". |
| **Information sources:** | Original MSDS and specifications from Manufacturers. |

**Abbreviations and acronyms**

Acute tox 3: acute toxicity category 3
Acute tox 4: acute toxicity category 4
ADR: **A**ccord européen relatif au transport international des marchandises **D**angereuses par **R**oute – European agreement related to international transport of hazardous goods by road.
cf: confer, compare to
CLP: **C**lassification, **L**abelling and **P**ackaging of substances and mixtures, reference to Directive 1272-2008
CAS nr: **C**hemical **A**bstract **S**ervice, important registration authority for release of chemical substances.
DNEL: Derived No Effect Level – an estimated safe exposure level.
EC-nbr: registration number of the European Community for chemical products.
EC50: **E**ffective **C**oncentration median
Eye irrit 2: eye irritation category 2
Flam. Liq.2: Flammable liquid category 2
GHS: United Nations **G**lobally **H**armonized **S**ystem

Weight%: weight percentage
H: **H**azard statement – hazard statement for substances and mixtures according to Directive 1272-2008
IATA: **I**nternational **A**ir **T**ransport **A**ssociation – regulations concerning the international transport of hazardous substances by air.
Index nbr.: identification number of hazardous chemical substances.
LC50: **L**ethal **C**oncentration median
LD50: **L**ethal **D**ose median
MSDS: **M**aterial **S**afety **D**ata **S**heet
n.a.: not applicable
NIOSH: **N**ational **I**nstitute for **O**ccupational **S**afety and **H**ealth – American institute for safety and health.
P: **P**recautionary statement – safety recommendations or precautionary measures according to Directive 1272-2008

PBT: **P**ersistent **B**ioaccumulative and **T**oxic substances – with reference to Directive 1907-2006.
PG: **P**ackaging **G**roup
REACH: **R**egistration, **E**valuation and **A**uthorization of **C**hemicals, reference to Directive 1907-2006
Reg.nr.: registration number
Rep.: replaces edition dd.
Skin irrit. 2: skin irritation category 2
Skin irrit. 3: skin irritation category 3

STOT SE 3: **S**pecific **T**arget **O**rgan **T**oxicity **S**ingle **E**xposure.

STOT

UN: **U**nited **N**ations
vPvB: **v**ery **P**ersistent and **v**ery **B**ioaccumulative

**Classification**: the classification of the mixture was determined by calculation, taking into account the Directives indicated in Directive 1272/288/EC and the available data of the suppliers. Physical provisions, such as density, pH, flash point,… were performed when necessary and if decisive for the classification.

**Further information**
This version replaces all previous versions.
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. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.