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

1.1. Product identifier

3-D Laserscanning Cleaner Spray

Further trade names

Article no. (user): 119.990.002

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

Use of the substance/mixture

Inspection of metals

1.3. Details of the supplier of the safety data sheet

Company name: Helling GmbH
Street: Spoekerdamm 2
Place: D-25436 Heidgraben
Telephone: +49-4122-922-0
Email: info@helling.de
Internet: www.helling.de

1.4. Emergency telephone number: +49-4122-922-0

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F+ - Extremely flammable, Xi - Irritant
R phrases:
Extremely flammable.
Irritating to eyes.
Vapours may cause drowsiness and dizziness.

GHS classification

Hazard categories:
Aerosol: Aerosol 1
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:
Extremely flammable aerosol.
Pressurised container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2.2. Label elements

Hazardous components which must be listed on the label
propan-2-ol; isopropyl alcohol; isopropanol

Signal word: Danger
Pictograms: GHS02-GHS07

Hazard statements
H222 Extremely flammable aerosol.
3-D Laserscanning Cleaner Spray

Safety Data Sheet

according to Regulation (EC) No 1907/2006

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H229 Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements
P102 Keep out of reach of children.
P210 Keep away from heat. No Smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P271 Use only outdoors or in a well-ventilated area.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>EC No</th>
<th>CAS No</th>
<th>Chemical name</th>
<th>Classification</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200-661-7</td>
<td>propan-2-ol; isopropyl alcohol; isopropanol</td>
<td>F - Highly flammable, Xi - Irritant</td>
<td>70 - 80 %</td>
</tr>
<tr>
<td>67-63-0</td>
<td></td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>603-117-00-0</td>
<td>01-2119457558-25</td>
<td>Flam. Gas 1; H220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203-448-7</td>
<td></td>
<td>butane</td>
<td>F+ - Extremely flammable</td>
<td>15 - 20 %</td>
</tr>
<tr>
<td>106-97-8</td>
<td></td>
<td>Flam. Gas 1; H220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>601-004-00-0</td>
<td></td>
<td>Flam. Gas 1; H220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200-827-9</td>
<td></td>
<td>propane</td>
<td></td>
<td>6 - 10 %</td>
</tr>
<tr>
<td>74-98-6</td>
<td></td>
<td>Flam. Gas 1; H220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>601-003-00-5</td>
<td></td>
<td>Flam. Gas 1; H220</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
First aider: Pay attention to self-protection!

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

After contact with skin
Wash with plenty of water. Change contaminated clothing.

After contact with eyes
If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion
Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. In case of trouble call
4.2. Most important symptoms and effects, both acute and delayed
Headache. Dizziness. drowsiness. unconsciousness.

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
Co-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons
High power water jet.

5.2. Special hazards arising from the substance or mixture
Vapours may generate explosive mixture with air. Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

Additional information
Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Provide adequate ventilation. Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

6.2. Environmental precautions
Do not allow uncontrolled discharge of product into the environment.

6.3. Methods and material for containment and cleaning up
Ventilate affected area.
Flammable liquids: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

6.4. Reference to other sections
Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. When using do not eat, drink or smoke. Use only in well-ventilated areas.

Advice on protection against fire and explosion
Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge. Vapours may generate explosive mixture with air.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition. - No smoking.

Advice on storage compatibility
Do not store together with: Oxidizing agents.

7.3. Specific end use(s)
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>600</td>
<td>1450</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>750</td>
<td>1810</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>400</td>
<td>999</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td>1250</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Occupational exposure controls
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Respiratory protection
With correct and proper use, and under normal conditions, breathing protection is not required.

Hand protection
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Recommended protective gloves brand: NBR (Nitrile rubber). Butyl rubber. FKM (fluororubber).

Eye protection
Suitable eye protection: Wear eye/face protection.

Skin protection
Body protection: not required.

Environmental exposure controls
No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Aerosol
Colour: colourless
Odour: characteristic

Test method
pH-Value: not determined

Changes in the physical state
Melting point: not determined
3-D Laserscanning Cleaner Spray

Initial boiling point and boiling range: 77 - 83 °C
Flash point: not applicable

**Flammability**
- Solid: not applicable
- Gas: not determined

**Explosive properties**
Vapours may generate explosive mixture with air.
- Lower explosion limits: not determined
- Upper explosion limits: not determined

**Auto-ignition temperature**
- Solid: not applicable
- Gas: not determined

**Oxidizing properties**
Not oxidizing.

- Vapour pressure: 42 hPa
- Density (at 20 °C): 0.784 - 0.786 g/cm³
- Water solubility: insoluble

**Solubility in other solvents**
not determined

- Partition coefficient: not determined
- Vapour density: not determined
- Evaporation rate: not determined

9.2. Other information
- Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity
No risks worthy of mention.

10.2. Chemical stability
No risks worthy of mention.

10.3. Possibility of hazardous reactions
Vapours may generate explosive mixture with air.

10.4. Conditions to avoid
Remove all sources of ignition. Keep away from heat.

10.5. Incompatible materials
Oxidizing agents.

10.6. Hazardous decomposition products
Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
**Acute toxicity**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>propan-2-ol; isopropyl alcohol; isopropanol</td>
<td>oral</td>
<td>LD50</td>
<td>4570 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>13400 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) aerosol</td>
<td>LC50</td>
<td>30 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>&gt; 20 mg/l</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) gas</td>
<td>LC50</td>
<td>273000 ppm</td>
<td>Rat</td>
<td></td>
</tr>
</tbody>
</table>

**Irritation and corrosivity**
- Prolonged/repetitive skin contact may cause skin defattening or dermatitis.
- Irritant effect on the eye: Irritant.

**Sensitising effects**
- No sensitizing effect known.

**Carcinogenic/mutagenic/toxic effects for reproduction**
- According to current knowledge not a carcinogen.
- According to current knowledge not mutagen.
- According to current knowledge not reproduction toxic.

**SECTION 12: Ecological information**

**12.1. Toxicity**
- The product has not been tested.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>propan-2-ol; isopropyl alcohol; isopropanol</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>8970 mg/l</td>
<td>Leuciscus idus (golden orfe)</td>
<td>96 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt;1000 mg/l</td>
<td>Scenedesmus subspicatus</td>
<td>72 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt;1000 mg/l</td>
<td>Daphnia magna</td>
<td>48 h</td>
</tr>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt; 100 mg/l</td>
<td>96 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt; 100 mg/l</td>
<td>48 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt; 100 mg/l</td>
<td>48 h</td>
<td></td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**
- The product has not been tested.
- Part of the components is biodegradable.

**12.3. Bioaccumulative potential**
- The product has not been tested.
Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>2.89</td>
</tr>
<tr>
<td>74-98-6</td>
<td>propane</td>
<td>2.36</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances Classified as hazardous waste.

Waste disposal number of contaminated packaging

150104 WASTE PACKAGING; ABSORBENTS, WIPE CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2

Hazard label: 2.1

Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L
Transport category: 2
Tunnel restriction code: D

Other applicable information (land transport)

Inland waterways transport (ADN)

14.1. UN number: 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
Hazard label: 2.1

Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L

Other applicable information (inland waterways transport)

Marine transport (IMDG)

14.1. UN number: 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group:
Hazard label: 2.1

Special Provisions: 63, 190, 277, 327, 344, 959
Limited quantity: See SP277
EmS: F-D, S-U

Other applicable information (marine transport)

Air transport (ICAO)

UN/ID number: 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
Hazard label: 2.1

Special Provisions: A145 A167 A802
Limited quantity Passenger: 30 kg G
IATA-packing instructions - Passenger: 203
IATA-max. quantity - Passenger: 75 kg
IATA-packing instructions - Cargo: 203
IATA-max. quantity - Cargo: 150 kg

Other applicable information (air transport)
Passenger-LQ: Y203
E0

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
No information available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
not applicable
SECTION 15: Regulatory information

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

EU regulatory information
1999/13/EC (VOC): 25 % (196 g/l)

National regulatory information
Employment restrictions: Observe employment restrictions for young people.
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
propan-2-ol; isopropyl alcohol; isopropanol

SECTION 16: Other information

Changes
section 2

Abbreviations and acronyms
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant R-phrases (Number and full text)
11 Highly flammable.
12 Extremely flammable.
36 Irritating to eyes.
67 Vapours may cause drowsiness and dizziness.

Relevant H- and EUH-phrases (Number and full text)
H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapour.
H229 Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)