GLUNZ & JENSEN

Material Safety Data Sheet

Revision date: March 11th, 2016
Version: B
MSDS number: 10083316

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name: LIQUID DOT D5717
Product Code: 10081662, 10081663
Manufacturer: Glunz & Jensen A/S
Selandia Park 1
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Denmark
Phone: +45 5768 8181
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Emergency phone number: For Chemical Emergency Spill Leak Fire Exposure or Accident Call NATIONAL POISONS EMERGENCY day or night: +44 870 600 6266

2. HAZARDS IDENTIFICATION

Classification (EC 1272/2008):

Serious eye damage/eye irritation:	Category 1 (H318).
Specific target organ toxicity (single exposure):	Category 3 (H336).
Flammable liquids:	Category 3 (H226).

Label elements:

Signal word: Danger.

Hazard statements:
H318 - Causes serious eye damage
H336 - May cause drowsiness and dizziness
H223 - Flammable liquid and vapor

Precautionary statements - EU (§28, 1272/2008):
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Other hazards:
General hazards: No information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	EC No	CAS-No	Weight %	Classification (EC 1272/2008)	Reach No	Note
Propylene glycol monomethyl ether	203-539-1	107-98-2	30 - 60	Flam. Liq. 3 (H226) STOT SE 3 (H336)	No data available	1
Gamma Butyrolactone	202-509-5	96-48-0	10 - 30	Acute Tox. 4 (H302) Eye Dam. 1 (H318) STOT SE 3 (H336)	No data available	1
Diacetone alcohol	204-626-7	123-42-2	5 - 10	Eye Irrit. 2 (H319)	No data available	1
2-Methoxy-1-propanol	216-455-5	1589-47-5	< 0.5	Skin Irrit. 2 (H315) Flam. Liq. 3 (H226) Repr. 1B (H360D) STOT SE 3 (H335) Eye Dam. 1 (H318)	No data available	1

Note
1. Substance with a Community workplace exposure limit.

The full text for all risk phrases and hazard statements is displayed in Section 16.

4. FIRST AID MEASURES

General advice:
Show this safety data sheet to the doctor in attendance.

Inhalation:
Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion:
Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Skin contact:
Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.

Eye contact:
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

5. FIRE-FIGHTING MEASURES

Extinguishing media:
Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media:
No information available.

Special hazards arising from the substance or mixture:
Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Advice for firefighters:
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURE

Personal precautions, protective equipment and emergency procedures:
Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions:
Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up:
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

Reference to other sections:
See Section 12 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling:
Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities:
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children.

Specific end use(s):

Exposure Scenario:	No information available.
Risk Management Methods (RMM):	The information required is contained in this Safety Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	The United Kingdom
Propylene glycol monomethyl ether 107-98-2	STEL: 150 ppm STEL: 560 mg/m³ TWA: 100 ppm TWA: 375 mg/m³ Skin
Diacetone alcohol 123-42-2	STEL: 75 ppm STEL: 362 mg/m³ TWA: 50 ppm TWA: 241 mg/m³

Component	France
Propylene glycol monomethyl ether 107-98-2	TWA/VME: 50 ppm (restrictive limit) TWA/VME: 188 mg/m³ (restrictive limit) STEL/VLCT: 100 ppm (restrictive limit) STEL/VLCT: 375 mg/m³ (restrictive limit) Skin
Diacetone alcohol 123-42-2	TWA/VME: 50 ppm TWA/VME: 240 mg/m³

Component	Germany
Propylene glycol monomethyl ether 107-98-2	TWA/MAK: 370 mg/m³ Peak: 200 ppm Peak: 740 mg/m³ TWA/AGW: 100 ppm TWA/AGW: 370 mg/m³
Diacetone alcohol 123-42-2	TWA/MAK: 20 ppm TWA/MAK: 96 mg/m³ Peak: 40 ppm Peak: 192 mg/m³ TWA/AGW: 20 ppm TWA/AGW: 96 mg/m³ Skin
2-Methoxy-1-propanol 1589-47-5	TWA/MAK: 5 ppm TWA/MAK: 19 mg/m³ Peak: 40 ppm Peak: 152 mg/m³ TWA/AGW: 5 ppm TWA/AGW: 19 mg/m³ Skin

Component	Spain
Propylene glycol monomethyl ether 107-98-2	STEL/VLA-EC: 150 ppm STEL/VLA-EC: 568 mg/m³ TWA/VLA-ED: 100 ppm TWA/VLA-ED: 375 mg/m³ Skin
Diacetone alcohol 123-42-2	TWA/VLA-ED: 50 ppm TWA/VLA-ED: 241 mg/m³
2-Methoxy-1-propanol 1589-47-5	TWA/VLA-ED: 5 ppm TWA/VLA-ED: 19 mg/m³

Component	Italy
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ Skin

Component	Portugal
Propylene glycol monomethyl ether 107-98-2	STEL/VLE-CD: 150 ppm TWA/VLE-MP: 100 ppm
Diacetone alcohol 123-42-2	TWA/VLE-MP: 50 ppm

Component	The Netherlands
Propylene glycol monomethyl ether 107-98-2	STEL: 563 mg/m³ TWA: 375 mg/m³ Skin

Component	Finland
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 370 mg/m³ STEL: 150 ppm STEL: 560 mg/m³ Skin
Diacetone alcohol 123-42-2	TWA: 50 ppm TWA: 240 mg/m³ STEL: 75 ppm STEL: 360 mg/m³

Component	Denmark
Propylene glycol monomethyl ether 107-98-2	TWA: 50 ppm TWA: 185 mg/m³
Diacetone alcohol 123-42-2	TWA: 50 ppm TWA: 240 mg/m³
2-Methoxy-1-propanol 1589-47-5	TWA: 20 ppm TWA: 75 mg/m³

Component	Austria
Propylene glycol monomethyl ether 107-98-2	STEL/KZW: 50 ppm STEL/KZW: 187 mg/m³ TWA/TMW: 50 ppm TWA/TMW: 187 mg/m³ Ceiling: 50 ppm Ceiling: 187 mg/m³ Skin
Diacetone alcohol 123-42-2	TWA/TMW: 50 ppm TWA/TMW: 240 mg/m³ Skin
2-Methoxy-1-propanol 1589-47-5	STEL/KZW: 80 ppm STEL/KZW: 300 mg/m³ TWA/TMW: 20 ppm TWA/TMW: 75 mg/m³ Skin

Component	Switzerland
Propylene glycol monomethyl ether 107-98-2	STEL/KZW: 200 ppm STEL/KZW: 720 mg/m³ TWA/MAK: 100 ppm TWA/MAK: 360 mg/m³
Diacetone alcohol 123-42-2	STEL/KZW: 40 ppm STEL/KZW: 192 mg/m³ TWA/MAK: 20 ppm TWA/MAK: 96 mg/m$^{3}_{3}$ Skin
2-Methoxy-1-propanol 1589-47-5	STEL/KZW: 40 ppm STEL/KZW: 152 mg/m³ TWA/MAK: 5 ppm TWA/MAK: 19 mg/m³ Skin

Component	Poland
Propylene glycol monomethyl ether 107-98-2	NDSCh: 360 mg/m³ TWA/NDS: 180 mg/m³
Diacetone alcohol 123-42-2	TWA/NDS: 240 mg/m³

Component	Norway
Propylene glycol monomethyl ether 107-98-2	TWA: 50 ppm TWA: 180 mg/m³ Skin
Diacetone alcohol 123-42-2	TWA: 25 ppm TWA: 120 mg/m³
2-Methoxy-1-propanol 1589-47-5	TWA: 20 ppm TWA: 75 mg/m³ Skin

Component	Ireland
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³
Diacetone alcohol 123-42-2	TWA: 50 ppm TWA: 240 mg/m³ STEL: 75 ppm STEL: 360mg/m³

Derived No Effect Level (DNEL): No information available.
Predicted No Effect Concentration (PNEC): No information available.

Engineering measures:
Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Respiratory protection:
No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

Skin protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye/face protection:
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General hygiene Considerations:
Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

Enviromental exposure controls: No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Coloured Liquid.
Odour:	No information available.
pH:	No data available.
Melting point/freezing point:	No data available.
Boiling point (°C):	> 194°C (300°F).
Flash point (°C):	32°C (89°F).
Evaporatopn rate:	No data available.
Flammability limit in air- upper (%):	No data available.
Flammability limit in air- lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Specific gravity:	0.99
Water Solubility:	No data available.
Solubility in other solvents:	No data available.
Partition coefficient: n-octanol/water:	No data available.
Auto ignition temperature (°C):	No data available.
Decomposition temperature:	No data available.
Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.
Softening point:	No data available.

10. STABILITY AND REACTIVITY

Chemical Stability:
Stable under normal temperature conditions.

Possibility of Hazardous Reactions:
None under normal processing.

Conditions to avoid:
Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials:
Srong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous decomposition products:
Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO2). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Inhalation:
There is no data for this product.

Ingestion:
There is no data for this product.

Skin contact:
There is no data for this product.

Eye contact:
There is no data for this product.

Unknown Acute Toxicity: 65.48 % of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:
ATEmix (oral): 3,428.00 mg/kg
ATEmix (dermal): 19,923.00 mg/kg
ATEmix (inhalation-dust/mist): 91.70 mg/L

Unknown Acute Toxicity:
65.48 % of the mixture consists of ingredient(s) of unknown toxicity.
0.01 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
0.01 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
65.48 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
65.48 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
5.96 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component	Oral LD50
Propylene glycol monomethyl ether 107-98-2	5200 mg/kg (Rat)
Gamma Butyrolactone 96-48-0	1540 mg/kg (Rat)
Diacetone alcohol 123-42-2	4 g/kg (Rat)

Component	LD50 Dermal
Propylene glycol monomethyl ether 107-98-2	13000 mg/kg (Rabbit)
Diacetone alcohol 123-42-2	13500 mg/kg (Rabbit)

Component	Inhalation LC50
Propylene glycol monomethyl ether 107-98-2	54.6 mg/L (Rat) 4 h >24 mg/L (Rat) 1 h
Gamma Butyrolactone 96-48-0	>2.68 mg/L (Rat) 4 h

Skin corrosion/irritation: There is no data for this product.
Eye damage/irritation: There is no data for this product.
Sensitisation: There is no data for this product.
Mutagenic Effects: There is no data for this product.
Carcinogenic effects: There is no data for this product.
Reproductive Effects: There is no data for this product.

Component	CMR vategories 1 and 2
2-Methoxy-1-propanol 1589-47-5	Reproductive Toxicity 1B

STOT - single exposure: There is no data for this product.
STOT - repeated exposure: There is no data for this product.
Aspiration hazard: There is no data for this product.

12. ECOLOGICAL INFORMATION

Toxicity:
None known.

Unknown aquatic toxicity:
0.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Algae/aquatic plants
Gamma Butyrolactone 96-48-0	72h EC50 Desmodesmus subspicatus: 360 mg/L 96h EC50 Desmodesmus subspicatus: 79 mg/L

Component	Fish
Propylene glycol monomethyl ether 107-98-2	96h LC50 Leuciscus idus: 4600 - 10000 mg/L [static] 96h LC50 Pimephales promelas: 20.8 g/L [static]
Gamma Butyrolactone 96-48-0	96h LC50 Leuciscus idus: 220 - 460 mg/L [static]
Diacetone alcohol 123-42-2	96h LC50 Lepomis macrochirus: 420 mg/L 96h LC50 Lepomis macrochirus: 420 mg/L [static]

Component	Crustacea
Propylene glycol monomethyl ether 107-98-2	48h EC50 Daphnia magna: 23300 mg/L
Gamma Butyrolactone 96-48-0	48h EC50 Daphnia magna Straus: >500 mg/L
Diacetone alcohol 123-42-2	24h EC50 Daphnia magna: 8750 mg/L

Persistance and degradability: No information available.

Bioaccumulative potential: No information available.

Component	Partition coefficient
Propylene glycol monomethyl ether 107-98-2	-0.437
Gamma Butyrolactone 96-48-0	-0.566
Diacetone alcohol 123-42-2	1.03

Mobility in soil:
No information available.

Results of PBT and vPvB assessment:
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects:
No information available.

13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products:
Contain and dispose of waste according to local regulations.

Contaminated Packaging:
Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR:

UN/ID no.:	UN1210
Proper Shipping Name:	Printing Ink
Hazard Class:	3
Packing Group:	III

ICAO / IATA / IMDG / IMO:

UN/ID no.:	UN1210
Proper Shipping Name:	Printing Ink
Hazard Class:	3
Packing Group:	III

15. REGULATORY INFORMATION

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

European Union

International Inventories:
For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

Chemical Safety Assessment: No information available.

16. OTHER INFORMATION

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

Full text of H-Statements referred to under sections 2 and 3:
H226 - Flammable liquid and vapor
H336 - May cause drowsiness or dizziness
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H360D - May damage the unborn child
H335 - May cause respiratory irritation
H318 - Causes serious eye damage
H302 - Harmful if swallowed

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION:
TWA: TWA (time-weighted average)
STEL: STEL (Short Term Exposure Limit)
Ceiling: Maximum limit value

Revision Date: March-11-2016

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer:
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 a 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.