

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : VERSAPASS® DN Black

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Inkjet printing
Recommended use : Ink and Toners
Restrictions on use : No additional information available

1.3. Supplier

Memjet Ltd.
61-62 Fitzwilliam Lane
Dublin, Ireland
T +353 1 678 0420 - F +1-858-798-3044
msds@memjet.com - www.memjet.com

Memjet
10918 Technology Place
San Diego, CA 92127 - USA
T 858 673 3300
www.memjet.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials Incidents (spill, leak, fire, exposure, or accident) call:
CHEMTREC: U.S. 1-800-424-9300 International: +1-703-527-3887
CHEMTREC (24 HOURS)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin Sens. 1 H317 May cause an allergic skin reaction
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure

Full text of hazard classes and H-statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS US) : P260 - Do not breathe mist, spray.
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves.
P302+P352 - If on skin: Wash with plenty of water
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P501 - Dispose in a safe manner in accordance with local/national regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

2% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
2% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	(CAS-No.) 7732-18-5	<75	Not classified
Ethylene glycol	(CAS-No.) 107-21-1	<9	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Ethoxylated acetylenic diols	(CAS-No.) 1606-85-5	1 - 5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
Sulfonated azo dye	(CAS-No.) 1422649-48-6	1 - 5	Skin Sens. 1, H317
Glycerol	(CAS-No.) 56-81-5	2	Not classified

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Not expected to be an irritant to eyes. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

4.2. Most important symptoms and effects (acute and delayed)

- Expected Symptoms/Effects, Acute and Delayed : May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Dry powder. Carbon dioxide. Sand. Water spray or fog. Foam.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

- Reactivity : No dangerous reactions known.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : nitrile rubber gloves.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. nitrile rubber gloves.
- Emergency procedures : Stop leak, if possible without risk. Take up small spills with dry chemical absorbent.

6.2. Environmental precautions

No additional information available

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment. Section 13: disposal information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing mist, spray.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container.

Incompatible products : None known.

Incompatible materials : None known.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol (56-81-5)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total) 5 mg/m³ (respirable fraction)
Ethoxylated acetylenic diols (1606-85-5)		
Not applicable		
Water (7732-18-5)		
Not applicable		
Sulfonated azo dye (1422649-48-6)		
Not applicable		
Ethylene glycol (107-21-1)		
ACGIH	Local name	Ethylene glycol
ACGIH	ACGIH TWA (ppm)	25 ppm
ACGIH	ACGIH STEL (mg/m³)	10 mg/m³
ACGIH	ACGIH STEL (ppm)	50 ppm
ACGIH	ACGIH Ceiling (mg/m³)	100 mg/m³
ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
ACGIH	Remark (ACGIH)	Kidney dam; URT & eye irr

8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves. nitrile rubber gloves.

Eye protection:

Eye protection should only be necessary where liquid could be splashed or sprayed.

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Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Black. liquid.
Color	: Black
Odor	: odorless
Odor threshold	: No data available
pH	: 7.5
Melting point	: No data available
Freezing point	: No data available
Boiling point	: $\approx 100\text{ }^{\circ}\text{C}$
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: No oxidizing properties.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
ATE US (oral)	5570 mg/kg body weight
Ethoxylated acetylenic diols (1606-85-5)	
LD50 oral rat	1230 mg/kg (Based on similar product)
ATE US (oral)	1230 mg/kg body weight
Sulfonated azo dye (1422649-48-6)	
LD50 oral rat	> 2000 mg/kg body weight No mortality. OECD 423.
LD50 dermal rat	> 2000 mg/kg No mortality. OECD 402.
ATE US (dust, mist)	5.1 mg/l/4h
Ethylene glycol (107-21-1)	
LD50 dermal rat	> 3500 mg/kg mouse
LC50 inhalation rat (mg/l)	> 2.5 mg/l/4h
ATE US (oral)	500 mg/kg body weight

Skin corrosion/irritation	: Not classified (Not irritating to skin)
Serious eye damage/irritation	: Not classified (Not irritating to eyes)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified (No carcinogenic effect)

Ethoxylated acetylenic diols (1606-85-5)	
IARC group	Not listed in carcinogenicity class

Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – single exposure	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

Ethylene glycol (107-21-1)	
LOAEL (oral,rat,90 days)	1000 mg/kg bodyweight/day
NOAEL (oral,rat,90 days)	150 mg/kg bodyweight/day kidney

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Likely routes of exposure	: Dermal.
Expected Symptoms/Effects, Acute and Delayed	: May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

Glycerol (56-81-5)	
LC50 fish 1	68 - 72 mg/l

Ethylene glycol (107-21-1)	
LC50 fish 1	72860 mg/l Pimephales promelas
EC50 Daphnia 1	> 100 mg/l
NOEC chronic fish	15380 mg/l Pimephales promelas
NOEC chronic crustacea	8590 mg/l Ceriodaphnia sp.

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12.2. Persistence and degradability

VERSAPASS® DN Black	
Biodegradation	5.9 % 28 days

Glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable.

Ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

VERSAPASS® DN Black	
Bioaccumulative potential	Not established.

Ethylene glycol (107-21-1)	
Log Pow	- 1.36
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the ozone layer : None known
Effect on global warming : None known
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Sulfonated azo dye	CAS-No. 1422649-48-6	1 - 5%
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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ethylene glycol	CAS-No. 107-21-1	8%
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Ethylene glycol (107-21-1)

CERCLA RQ 5000 lb

15.2. International regulations

CANADA

Glycerol (56-81-5)

Listed on the Canadian DSL (Domestic Substances List)

Ethoxylated acetylenic diols (1606-85-5)

Listed on the Canadian DSL (Domestic Substances List)

Sulfonated azo dye (1422649-48-6)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Ethylene glycol (107-21-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Glycerol (56-81-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethylene glycol (107-21-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Glycerol (56-81-5)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on Taiwan National Chemical Inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)

Ethylene glycol (107-21-1)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on Taiwan National Chemical Inventory
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations



WARNING

This product can expose you to ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ethylene glycol (107-21-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		8700 µg/day (oral)
U.S. - California - Proposition 65 - Other information		Ingestion			

Glycerol (56-81-5)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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Ethylene glycol (107-21-1)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Data sources : ACGIH (American Conference of Government Industrial Hygienists).
Chemical Inspection & Regulation Service; accessed at: http://www.cirs-reach.com/Inventory/Global_Chemical_Inventories.html.
Component Supplier SDSs.
European Chemicals Agency (ECHA) Registered Substances list. European Standards: Personal Protective Equipment; accessed at: http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/personal-protective-equipment/index_en.htm.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
Manufacturer Information.
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.

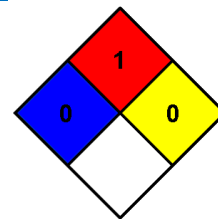
Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms:

ATE: Acute Toxicity Estimate
CAS (Chemical Abstracts Service) number
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
LD50: Lethal Dose for 50% of the test population
NOEC: No Observable Effect Concentration

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS Prepared by: The Redstone Group
6077 Frantz Rd.
Suite 206
Dublin, OH USA 43017
T 614-923-7472
www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product