

VERSAPASS® DG Black

Safety Data Sheet



according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : VERSAPASS® DG Black

1.2. Recommended use and restrictions on use

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

1.3. Supplier

Memjet Ltd.
61-62 Fitzwilliam Lane
Dublin, Ireland
T +353 1 678 0420
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

Eye Dam. 1	H318	Causes serious eye damage
Repr. 1B	H360	May damage fertility or the unborn child
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) : Danger

Hazard statements (GHS US) : H318 - Causes serious eye damage
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe Aerosol, mist, spray.
P280 - Wear eye protection, protective gloves.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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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	65 - 70	Not classified
Ethylene glycol	(CAS-No.) 107-21-1	10 - 13	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
2-pyrrolidone	(CAS-No.) 616-45-5	7 - 9	Eye Irrit. 2A, H319 Repr. 1B, H360
4,5-dihydro-5-oxo-1-(4-sulfophenyl)- 4-(4-{2-[1,2,7,8-tetrahydro-7-(4-nitro-2-sulfophenylhydrazono)-1,8-d	(CAS-No.) 454217-04-0	5 - 7	Eye Dam. 1, H318
Glycerol	(CAS-No.) 56-81-5	3 - 5	Not classified

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 general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- 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. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get immediate medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting unless directed to do so by medical personnel.

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

- Symptoms/effects : May cause damage to organs (through prolonged or repeated exposure).
- Symptoms/effects after inhalation : Inhalation may cause: irritation, cough, shortness of breath.
- Symptoms/effects after skin contact : No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
- Symptoms/effects after eye contact : Causes serious eye damage.
- Symptoms/effects after ingestion : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

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 : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

- Fire hazard : No specific fire or explosion hazard.
- Explosion hazard : Product is not explosive.
- Reactivity : Hazardous polymerization will not occur.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use extinguishing media appropriate for surrounding fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flammable resistant/retardant clothing. Use self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapor and mist.

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6.1.1. For non-emergency personnel

- Protective equipment : Avoid contact with skin and eyes. Wear suitable gloves. butyl rubber gloves. natural rubber gloves.
- Emergency procedures : Evacuate unnecessary personnel. Stop leak, if possible without risk.

6.1.2. For emergency responders

- Protective equipment : Avoid all eye and skin contact and do not breathe vapor and mist. Wear suitable protective clothing and gloves: butyl rubber or rubber. Use eye protection designed to protect against liquid splashes.
- Emergency procedures : Stop leak if safe to do so. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions

Do not discharge into drains or the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Do not allow minor leaks or spills to accumulate on walking surfaces. Absorb and/or contain spill with inert material, then place in suitable container.
- Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

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 : Avoid all eye and skin contact and do not breathe vapor and mist. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Emptied container retains vapor and product residue.
- Hygiene measures : Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in original container. Keep container tightly closed and in a well-ventilated place.

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)
2-pyrrolidone (616-45-5)		
Not applicable		
Water (7732-18-5)		
Not applicable		
4,5-dihydro-5-oxo-1-(4-sulfophenyl)- 4-(4-{2-[1,2,7,8-tetrahydro-7-(4-nitro-2-sulfophenylhydrazono)-1,8-d (454217-04-0)		
Not applicable		
Ethylene glycol (107-21-1)		
ACGIH	Local name	Ethylene glycol
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 splashing. Either local exhaust or general room ventilation is usually required.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. butyl rubber gloves or natural rubber gloves.

Eye protection:

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. Use splash goggles when eye contact due to splashing is possible.

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Use air-purifying respirator equipped with particulate filtering cartridges.

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	: Semi-opaque.
Color	: Black
Odor	: No data available
Odor threshold	: No data available
pH	: 6.5 - 7.5
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 90 °C
Flash point	: > 93.3 °C Closed cup (Pensky-Martens)
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	: > 1 (Air = 1)
Relative density	: 1 - 1.1
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 1.7 - 2.3 mPa·s
Explosive limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous polymerization will not occur.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

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10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Do not store with incompatible materials.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under fire conditions, hazardous fumes will be present.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
ATE US (oral)	5570 mg/kg body weight

2-pyrrolidone (616-45-5)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 20 mg/l/4h
ATE US (oral)	5000 mg/kg body weight

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
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child.
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

2-pyrrolidone (616-45-5)	
NOAEL (oral,rat,90 days)	207 mg/kg bodyweight/day The kidneys were the most affected organs.

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
Likely routes of exposure	: Inhalation. Skin and eye contact.
Symptoms/effects	: May cause damage to organs (through prolonged or repeated exposure).
Symptoms/effects after inhalation	: Inhalation may cause: irritation, cough, shortness of breath.
Symptoms/effects after skin contact	: No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

SECTION 12: Ecological information

12.1. Toxicity

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Glycerol (56-81-5)	
LC50 fish 1	68 - 72 mg/l
2-pyrrolidone (616-45-5)	
LC50 fish 1	> 4600 (4600 - 10000) mg/l 96 hr. Danio rerio
EC50 Daphnia 1	> 500 mg/l
ErC50 (algae)	> 500 mg/l
NOEC (acute)	4640 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.

12.2. Persistence and degradability

VERSAPASS® DG Black	
Persistence and degradability	Not established.
Glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable.
2-pyrrolidone (616-45-5)	
Persistence and degradability	Readily biodegradable.
Ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.
Biodegradation	> 60 % 28 d

12.3. Bioaccumulative potential

VERSAPASS® DG Black	
Bioaccumulative potential	Not established.
2-pyrrolidone (616-45-5)	
Bioconcentration factor (BCF REACH)	3.16
Log Pow	- 0.32
Bioaccumulative potential	Not expected to bioaccumulate.
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

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Do not dispose in household garbage. Dispose in a safe manner in accordance with local/national regulations.

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 regulated.

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Transportation of Dangerous Goods

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

VERSAPASS® DG Black		
EPA TSCA Regulatory Flag	All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory	

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	10 - 13%
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Glycerol (56-81-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

2-pyrrolidone (616-45-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

4,5-dihydro-5-oxo-1-(4-sulfophenyl)- 4-(4-{2-[1,2,7,8-tetrahydro-7-(4-nitro-2-sulfophenylhydrazono)-1,8-d (454217-04-0)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a final TSCA section 4 test rule.
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

Glycerol (56-81-5)
Listed on the Canadian DSL (Domestic Substances List)

2-pyrrolidone (616-45-5)
Listed on the Canadian DSL (Domestic Substances List)

4,5-dihydro-5-oxo-1-(4-sulfophenyl)- 4-(4-{2-[1,2,7,8-tetrahydro-7-(4-nitro-2-sulfophenylhydrazono)-1,8-d (454217-04-0)
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

VERSAPASS® DG Black
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances)

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

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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

2-pyrrolidone (616-45-5)

U.S. - Pennsylvania - RTK (Right to Know) List

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

Revision date : 04/04/2019

Data sources : Chemical Inspection & Regulation Service; accessed at: http://www.cirs-reach.com/Inventory/Global_Chemical_Inventories.html.

European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.

European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>.

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.

National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

S National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.

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Other information : None.

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Repr. 1B	Reproductive toxicity Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H318	Causes serious eye damage
H319	Causes serious eye irritation
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms:

ATE: Acute Toxicity Estimate
CAS (Chemical Abstracts Service) number
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
OSHA: Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative, Toxic
STEL: Short Term Exposure Limits
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average

Indication of changes:

Section	Changed item	Change	Comments
2.1	Hazard statements (GHS US)	Modified	
2.1	GHS-US classification	Modified	
2.1	Precautionary statements (GHS US)	Modified	

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.