

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : Niagara Yellow, CR1

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Inkjet printing

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Memjet, Ltd
61-62 Fitzwilliam Lane
Dublin 2, Ireland
T +353 1 678 0420
msds@memjet.com
www.memjet.com

1.4. Emergency telephone number

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

Hours of Operation: 24/7

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	<80	Not classified
Glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	<= 2	Not classified
Ethoxylated acetylenic diols: Ethanol, 2,2'-(2-butyne-1,4- diylbis(oxy))bis-	(CAS No) 1606-85-5 (EC no) 216-526-0	1.3	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319

Full text of H-statements: see section 16

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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. When symptoms occur: go into open air and ventilate suspected area. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Gently wash with plenty of soap and water.
- 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.
- First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to an unconscious person. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : None under normal use.
- Symptoms/injuries after skin contact : No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
- Symptoms/injuries after eye contact : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of eye exposure.

4.3. Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

- Fire hazard : No specific fire or explosion hazard.
- Explosion hazard : Product is not explosive.

5.3. Advice for firefighters

- 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/flame resistant/retardant clothing. Wear a self-contained breathing apparatus. EN469.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Stop leak without risks if possible. Take up small spills with dry chemical absorbent.

6.1.2. For emergency responders

- Emergency procedures : Stop leak if safe to do so. Wipe up with absorbent material (for example cloth).

6.2. Environmental precautions

Do not discharge into drains or the environment.

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 spills: Wipe up with absorbent material (e.g. cloth, fleece).

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 : 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.
- Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace.

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.

7.3. Specific end use(s)

Inkjet printing.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol (56-81-5)		
Belgium	Limit value (mg/m ³)	10 mg/m ³
Belgium	Remark (BE)	(brouillard)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	10 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	2.44 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	15 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	3.66 ppm
Finland	HTP-arvo (8h) (mg/m ³)	20 mg/m ³
France	VME (mg/m ³)	10 mg/m ³
France	Note (FR)	(aérosols de)
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³
Poland	NDS (mg/m ³)	10 mg/m ³
Slovakia	NPHV (priemerná) (mg/m ³)	10 mg/m ³
Spain	VLA-ED (mg/m ³)	10 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³
Switzerland	VME (mg/m ³)	50 mg/m ³
Switzerland	VLE (mg/m ³)	100 mg/m ³
Switzerland	Remark (CH)	(inhalable aerosol)
Canada (Quebec)	VEMP (mg/m ³)	10 mg/m ³
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total) 5 mg/m ³ (respirable fraction)

8.2. Exposure controls

Appropriate engineering controls:

Avoid creating mist or spray. Avoid splashing. Either local exhaust or general room ventilation is usually required.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves. EN374

Eye protection:

Eye protection should only be necessary where liquid could be splashed or sprayed. EN166

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Use air-purifying respirator equipped with particulate filtering cartridges. EN 136/140

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Yellow liquid.

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Colour	: Yellow.
Odour	: Odorless.
Odour threshold	: No data available
pH	: 7.1
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 93.3 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1 (Air = 1)
Relative density	: No data available
Solubility	: Miscible with water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No oxidizing properties.
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization 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

Thermal decomposition generates: Sulphur oxides. Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
Ethoxylated acetylenic diols (1606-85-5)	
LD50 oral rat	1230 mg/kg (Based on similar product)

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Conclusive but not sufficient for classification)

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Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

Niagara Yellow	
Persistence and degradability	Not established.

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

12.3. Bioaccumulative potential

Niagara Yellow	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Niagara Yellow	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Component	
Glycerol (56-81-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Other adverse effects : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable
IMDG
Transport hazard class(es) (IMDG) : Not applicable
IATA
Transport hazard class(es) (IATA) : Not applicable
ADN
Transport hazard class(es) (ADN) : Not applicable

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RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH	(American Conference of Government Industrial Hygienists)
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
OSHA:	Occupational Safety & Health Administration
PBT:	Persistent, Bioaccumulative, Toxic
TSCA:	Toxic Substances Control Act
TWA:	Time Weighted Average

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Data sources : ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>)
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.
OSHA 29 CFR 1910.1200 Hazard Communication Standard.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed
H319	Causes serious eye irritation

SDS EU (REACH Annex II)

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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