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SAFETY DATA SHEET

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

1.1 Product Identifier

Product Name	**X-CLEANER-5**
Product Category	**Ink Product**

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended use	Industrial Printing Operations

1.3 Details of the Supplier of the Safety Data Sheet

M&R Printing Equipment, Inc.
440 Medinah Road
Roselle, IL 60172-2329
(800) 736-6431
info@mrprint.com

1.4 Emergency Telephone Number

Chemtrec: within USA and Canada: (800) 424-9300
Outside USA and Canada: +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Serious eye damage/eye irritation	Category 2 - (H319)

2.2 Label Elements

Signal Word	Warning
Hazard Statements	H319 - Causes serious eye irritation May produce an allergic reaction
Precautionary Statements - EU (§28, 1272/2008)	P264 - Wash face, hands and any exposed skin thoroughly after handling P280 - Wear eye protection/ face protection P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3 Other Hazards

No information available.

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).

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical Name	EC No (EU Index No)	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number	Note
Diethylene glycol	203-872-2	111-46-6	10 - 30	Acute Tox. 4 (H302)	01-2119457857-21-xxxx	1
Diethylene glycol monobutyl ether	203-961-6	112-34-5	5 - 10	Eye Irrit. 2 (H319)	01-2119475104-44-xxxx	1
Ethoxylated 2,4,7,9-tetramethyl-5-decyne-4, 7-diol	500-022-5	9014-85-1	1 - 5	Eye Dam. 1 (H318) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)	01-2119954393-33-xxxx	
1,2-Benzisothiazolin-3-one	220-120-9	2634-33-5	0.01 - < 0.10	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available	

Note
REACH No: Registration number(s) may not be provided because substance(s) are exempted or not yet required to be registered under REACH
1. Substance with a community workplace exposure limit

Chemical Name	EU - CLP (1272/2008) - Annex VI - Table 3 - Acute Toxicity Estimates (ATEs)	Specific concentration limit (SCL)	M-Factor	M-Factor (long term)
Ethoxylated 2,4,7,9-tetramethyl-5-decyne-4,7-diol 9014-85-1			1	1
1,2-Benzisothiazolin-3-one 2634-33-5		Skin Sens. 1 :: C>=0.05%	1	1

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

4. FIRST AID MEASURES

4.1. Description of first aid measures

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

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.

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.

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.

4.2. Most important symptoms and effects, both acute and delayed None under normal use conditions.

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

Notes to Physician Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable 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.

5.2. 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.

5.3. 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 MEASURES

6.1. 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.

6.2. 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.

6.3. 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.

6.4. Reference to other sections — See Section 12 for more information.

7. HANDLING AND STORAGE

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

7.2. 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. Do not freeze.

7.3. 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

8.1. Control parameters

Exposure limits

Chemical Name	European Union
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 67.5 mg/m^3 STEL: 15 ppm STEL: 101.2 mg/m^3
Chemical Name	**United Kingdom**
Diethylene glycol 111-46-6	STEL: 69 ppm STEL: 303 mg/m^3 TWA: 23 ppm TWA: 101 mg/m^3
Diethylene glycol monobutyl ether 112-34-5	STEL: 15 ppm STEL: 101.2 mg/m^3 TWA: 10 ppm TWA: 67.5 mg/m^3

Chemical Name	France
Diethylene glycol monobutyl ether 112-34-5	TWA/VME: 10 ppm indicative limit TWA/VME: 68 mg/m^3 indicative limit STEL/VLCT: 15 ppm indicative limit STEL/VLCT: 101.2 mg/m^3 indicative limit
Chemical Name	**Germany DFG**
Diethylene glycol 111-46-6	TWA/MAK: 10 ppm TWA/MAK: 44 mg/m^3 TWA/AGW: 10 ppm TWA/AGW: 44 mg/m^3 Peak: 40 ppm Peak: 176 mg/m^3
Diethylene glycol monobutyl ether 112-34-5	TWA/MAK: 67 mg/m^3 TWA/MAK: 10 ppm TWA/AGW: 10 ppm TWA/AGW: 67 mg/m^3 Peak: 15 ppm Peak: 100.5 mg/m^3
Chemical Name	**Spain**
Diethylene glycol monobutyl ether 112-34-5	TWA/VLA-ED: 10 ppm TWA/VLA-ED: 67.5 mg/m^3 STEL/VLA-EC: 15 ppm STEL/VLA-EC: 101.2 mg/m^3
Chemical Name	**Italy MDLPS**
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 67.5 mg/m^3 STEL: 15 ppm STEL: 101.2 mg/m^3 Chemical name
Chemical Name	**Portugal**
Diethylene glycol monobutyl ether 112-34-5	TWA/VLE-MP: 10 ppm TWA/VLE-MP: 67.5 mg/m^3 STEL/VLE-CD: 101.2 mg/m^3 STEL/VLE-CD: 15 ppm
Chemical Name	**Netherlands**
Diethylene glycol monobutyl ether 112-34-5	TWA: 50 mg/m^3 STEL: 100 mg/m^3 Skin
Chemical Name	**Finland**
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 68 mg/m^3
Chemical Name	**Denmark**
Diethylene glycol 111-46-6	TWA: 2.5 ppm TWA: 11 mg/m^3
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 68 mg/m^3
Chemical Name	**Austria**
Diethylene glycol 111-46-6	TWA: 10 ppm TWA: 44 mg/m^3 STEL 40 ppm STEL 176 mg/m^3
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 67.5 mg/m^3 STEL 15 ppm STEL 101.2 mg/m^3

Chemical Name	Switzerland
Diethylene glycol 111-46-6	TWA/MAK: 10 ppm aerosol, vapour TWA/MAK: 44 mg/m^3 aerosol, vapour STEL/KZW: 40 ppm aerosol, vapour STEL/KZW: 176 mg/m^3 aerosol, vapour
Diethylene glycol monobutyl ether 112-34-5	TWA/MAK: 10 ppm aerosol, vapour TWA/MAK: 67 mg/m^3 aerosol, vapour STEL/KZW: 15 ppm aerosol, vapour STEL/KZW: 101 mg/m^3 aerosol, vapour
Chemical Name	**Poland**
Diethylene glycol 111-46-6	TWA/NDS: 10 mg/m^3 inhalable fraction
Diethylene glycol monobutyl ether 112-34-5	TWA/NDS: 67 mg/m^3 STEL/NDSCh : 100 mg/m^3
Chemical Name	**Norway**
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 68 mg/m^3
Chemical Name	**Ireland**
Diethylene glycol 111-46-6	TWA: 23 ppm TWA: 100 mg/m^3 STEL: 69 ppm STEL: 300 mg/m^3
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm TWA: 67.5 mg/m^3 STEL: 15 ppm STEL: 101.2 mg/m^3

Chemical Name	Australia TWA
Diethylene glycol 111-46-6	TWA: 23 ppm TWA: 100 mg/m^3

Derived No Effect Level (DNEL)

Chemical Name	DNEL - Dermal (Workers)	DNEL - Inhalation (Workers)
Diethylene glycol 111-46-6	43 mg/kg (Systemic long term)	44 mg/m^3 (Systemic long term) 60 mg/m^3 (Local long term)
Diethylene glycol monobutyl ether 112-34-5	83 mg/kg (Systemic long term)	67.5 mg/m^3 (Systemic long term) 67.5 mg/m^3 (Local long term) 101.2 mg/m^3 (Local acute/short term)
Ethoxylated 2,4,7,9-tetramethyl-5-decyne-4,7-diol 9014-85-1	0.5 mg/kg (Systemic long term) 1.5 mg/kg (Systemic acute/short term)	1.76 mg/m^3 (Systemic long term) 5.28 mg/m^3 (Systemic acute/short term)

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

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.

Personal Protective Equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). If splashes are likely to occur: Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye Protection	Safety glasses with side-shields. Goggles. Face-shield. Avoid contact with eyes. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Hand Protection	Chemical resistant protective gloves. Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Due to different glove types, the manufacturer's directions for use should be observed. Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.
Respiratory 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. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.
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.
Environmental Exposure Controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Odor	No information available
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	> 100 °C	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	> 94 °C	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	1.02	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	None known
Particle characteristics		
Particle Size	No data available	
Particle Size Distribution	No data available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes	Not applicable
9.2.2. Other safety characteristics	No information available

10. STABILITY AND REACTIVITY

10.1. Reactivity	No information available.
10.2. Chemical stability	Stable under normal conditions.
10.3. Possibility of hazardous reactions	None under normal processing.
10.4. Conditions to avoid	Keep away from open flames, hot surfaces and sources of ignition. Do not freeze.
10.5. Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.
10.6. Hazardous decomposition products	Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO2). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Inhalation	Specific test data for the substance or mixture is not available.
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown acute toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,500.00
ATEmix (dermal)	99,999.00
ATEmix (inhalation-gas)	99,999.00
ATEmix (inhalation-dust/mist)	99,999.00
ATEmix (inhalation-vapor)	99,999.00

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown acute toxicity.
0% of the mixture consists of ingredient(s) of unknown acute oral toxicity.
0% of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical Name	Oral LD50
Diethylene glycol 111-46-6	= 12565 mg/kg (Rat)
Diethylene glycol monobutyl ether 112-34-5	= 5660 mg/kg (Rat)
1,2-Benzisothiazolin-3-one 2634-33-5	= 1020 mg/kg (Rat)

Chemical Name	Dermal LD50
Diethylene glycol 111-46-6	= 11890 mg/kg (Rabbit)
Diethylene glycol monobutyl ether 112-34-5	= 2700 mg/kg (Rabbit)
1,2-Benzisothiazolin-3-one 2634-33-5	> 2000 mg/kg (Rat)

Chemical Name	Inhalation LC50
Diethylene glycol 111-46-6	> 4600 mg/m3 (Rat) 4 h

Skin corrosion/irritation Specific test data for the substance or mixture is not available.
Eye damage/irritation Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).

Sensitization Specific test data for the substance or mixture is not available.
Mutagenic Effects Specific test data for the substance or mixture is not available.
Carcinogenic effects Specific test data for the substance or mixture is not available.
Reproductive Effects Specific test data for the substance or mixture is not available.

STOT - single exposure Specific test data for the substance or mixture is not available.
STOT - repeated exposure Specific test data for the substance or mixture is not available.
Aspiration hazard Specific test data for the substance or mixture is not available.

11.2. Information on other hazards No information available

12. ECOLOGICAL INFORMATION

12.1. Toxicity Specific test data for the substance or mixture is not available.
Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants
Diethylene glycol monobutyl ether 112-34-5	96h EC50 Desmodesmus subspicatus: > 100 mg/L

Chemical Name	Fish
Diethylene glycol 111-46-6	96h LC50 Pimephales promelas: = 75200 mg/L (flow-through)
Diethylene glycol monobutyl ether 112-34-5	96h LC50 Lepomis macrochirus: = 1300 mg/L (static)

Chemical Name	Crustacea
Diethylene glycol 111-46-6	48h EC50 Daphnia magna: = 84000 mg/L
Diethylene glycol monobutyl ether 112-34-5	48h EC50 Daphnia magna: > 100 mg/L

12.2. Persistence and degradability No information available

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient
Diethylene glycol 111-46-6	-1.98
1,2-Benzisothiazolin-3-one 2634-33-5	1.3

12.4. Mobility in soil No information available.

12.5. 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).

12.6 Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

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

Note: This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

ADR Not Regulated

ICAO / IATA / IMDG / IMO Not Regulated

15. REGULATORY INFORMATION

15.1. 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)

Regulation (EC) No. 1907/2006 (REACH), Article 57 This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59).

15.2. 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 section 3

H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H400 - Very toxic to aquatic life
H402 - Harmful to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Revision date Jun-26-2024

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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.

End of Safety Data Sheet