

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Code(s)** TWY1443  
**Product name** MAX2 Yellow Ink  
**Substance or Preparation** Preparation  
Contains 2-Pyrrolidinone, 1-ethyl-

### Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** ink  
**Uses advised against** No information available

### Details of the supplier of the safety data sheet

#### **Manufacturer:**

Collins Inkjet Corporation  
1201 Edison Drive  
Cincinnati, Ohio 45216  
PH: 513-948-9000  
Info@collinsinkjet.com  
For further information, please contact

**Emergency telephone number** Chemtrec 1-800-424-9300

## Section 2: HAZARD IDENTIFICATION

### Classification of the substance or mixture

Regulation (EC) No 1272/2008

<b>Reproductive Toxicity</b>	Category 1B - (H360)
<b>Chronic aquatic toxicity</b>	Category 3 - (H412)

### **Classification according to Directive 67/548/EEC or 1999/45/EC**

Full text of R-phrases: see section 16

#### **Symbol(s)**

Xn - Harmful

#### **R-code(s)**

Xn;R22 - Xi;R36

### **Label Elements**

**Product identifier**



Contains 2-Pyrrolidinone, 1-ethyl-

**Signal word**

DANGER

**Hazard statements**

H360 - May damage fertility or the unborn child

H412 - Harmful to aquatic life with long lasting effects

H360D - May damage the unborn child

**Precautionary Statements - EU (§28, 1272/2008)**

P201 - Obtain special instructions before use

P281 - Use personal protective equipment as required

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P202 - Do not handle until all safety precautions have been read and understood

**Other Hazards**

May be harmful if swallowed. Harmful to aquatic life. combustible liquid.

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Chemical name	EC No	CAS-No	Weight %	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Lactam	Listed	-	15 - 40	Xn;R22	Repr. 1B (H360D)	No data available
Ethyl alcohol	EEC No. Present	64-17-5	1 - 5	F; R11	Flam. Liq. 2 (H225)	No data available

**Full text of R-phrases: see section 16**

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

**NOTE**

Restliche Bestandteile sind entweder ober oder unterhalb der Schwellenbegrenzungen nicht gefährlich.

### Section 4: FIRST AID MEASURES

**Description of first aid measures**

**General advice**

Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. If symptoms persist, call a physician. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Inhalation**

If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Remove to fresh air. Consult a physician. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

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<b>IF ON SKIN</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary. Immediate medical attention is not required. If skin irritation persists, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed****Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## Section 5: FIRE-FIGHTING MEASURES

**Extinguishing media****Suitable extinguishing media**

Use. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol resistant foam.

**Unsuitable extinguishing media**

None

**Special hazards arising from the substance or mixture**

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes

**Advice for fire-fighters**

Wear self-contained breathing apparatus and protective suit.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protection recommended in Section 8. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Advice for Emergency Responders**

Use personal protection recommended in Section 8.

**Environmental Precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

**Methods and material for containment and cleaning up****Methods for containment**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

**Reference to other sections**

See section 7 for more information.

## Section 7: HANDLING AND STORAGE

**Precautions for safe handling****Handling**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

**Hygiene Measures**

Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Regular cleaning of equipment, work area and clothing is recommended.

**Conditions for safe storage, including any incompatibilities****Storage**

Keep out of the reach of children. Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**Specific end use(s)****Risk Management Methods (RMM)**

The information required is contained in this Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

Chemical name	Eu	United Kingdom	France	Spain	Germany
Lactam					TWA: 2 ppm TWA: 9.4 mg/m <sup>3</sup> Ceiling / Peak: 4 ppm Ceiling / Peak: 18.8 mg/m <sup>3</sup>
Ethyl alcohol 64-17-5		TWA: 1000 ppm TWA: 1920 mg/m <sup>3</sup>	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> STEL: 5000 ppm STEL: 9500 mg/m <sup>3</sup>	VLA-ED: 1000 ppm VLA-ED; 1910 mg/m <sup>3</sup> VLA-ED	TWA: 500 ppm TWA: 960 mg/m <sup>3</sup> Ceiling / Peak: 1000 ppm Ceiling / Peak: 1920 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Ethyl alcohol 64-17-5		TWA: 1000 ppm	MAC: 500 ppm MAC; 1000 mg/m <sup>3</sup> MAC	TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm STEL: 2500 mg/m <sup>3</sup> STEL: 1300 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Lactam		STEL: 4 ppm STEL: 18.8 mg/m <sup>3</sup>			
Ethyl alcohol 64-17-5	STEL 2000 ppm STEL; 3800 mg/m <sup>3</sup> STEL MAK: 1000 ppm MAK; 1900 mg/m <sup>3</sup> MAK	STEL: 1000 ppm STEL: 1920 mg/m <sup>3</sup>	NDS: 1900 mg/m <sup>3</sup>	TWA: 500 ppm TWA: 950 mg/m <sup>3</sup> STEL: 1187.5 mg/m <sup>3</sup> STEL: 625 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available.

### Exposure controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Showers. Eyewash stations.

### **Personal Protective Equipment**

**Eye/Face Protection** Tight sealing safety goggles. Face protection shield.  
**Hand protection** For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.  
**Skin and body protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Suitable protective clothing. Apron. For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.  
**Respiratory protection** Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### General information

<b>Physical state</b>	liquid	<b>Appearance</b>	yellow
<b>Odor</b>	Acrylic		
<b><u>Important health, safety and environmental information</u></b>			
<b>Flash Point</b>	> 89 °C	<b>Method</b>	Seta closed cup.
<b>Boiling point/range (°C)</b>	No information available	<b>pH</b>	
<b>VALUE</b>		<b>Autoignition temperature</b>	>200 °C
<b>PH</b>	8 - 10	<b>VOC Content</b>	No information available
<b>Vapor Pressure</b>	No information available	<b>Solubility</b>	Soluble in water
<b>Viscosity</b>	< 15 cps	<b>Evaporation Rate</b>	No information available
<b>Specific gravity</b>	0.9 - 1.1		
<b>Vapor Density</b>	Heavier than air	<b>Flammability Limit in Air</b>	No information available

### OTHER INFORMATION

**Melting point / melting range** No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under normal conditions.

#### Explosion data

Sensitivity to Mechanical Impact None.  
 Sensitivity to Static Discharge None.

### Possibility of hazardous reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

**Hazardous Reactions**

None under normal processing.

**Conditions to avoid****Incompatible materials**

Strong oxidizing agents.

**Hazardous decomposition products**

Carbon oxides.

## Section 11: TOXICOLOGY INFORMATION

**Information on toxicological effects****Acute toxicity****Product Information**

The product has not been tested.

<b>Inhalation</b>	May cause irritation of respiratory tract. Avoid breathing vapors or mists.
<b>Eye contact</b>	Avoid contact with eyes. Contact with eyes may cause irritation.
<b>IF ON SKIN</b>	May discolor the skin. May cause skin irritation and/or dermatitis. Avoid contact with skin.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. Do NOT taste or swallow.

**Unknown acute toxicity** 6.326482% of the mixture consists of ingredient(s) of unknown toxicity.

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

<b>ATEmix (oral)</b>	4,419.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	4,361.70 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lactam	= 1350 mg/kg ( Rat )		
Ethyl alcohol	= 7060 mg/kg ( Rat )		= 124.7 mg/L ( Rat ) 4 h

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenic effects</b>	No information available.
<b>Reproductive toxicity</b>	May cause harm to the unborn child. Possible risk of harm to the unborn child. May impair fertility. Possible risk of impaired fertility.
<b>STOT - single exposure</b>	No information available.

<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	blood, Central Nervous System (CNS), EYES, liver, Reproductive System, Respiratory System, skin.
<b>Aspiration hazard</b>	No information available.

## Section 12: ECOLOGICAL INFORMATION

### Toxicity

Harmful to aquatic life Harmful to aquatic life with long lasting effects

### Ecotoxicity effects

Not Established.

36.32688% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Ethyl alcohol		12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

Chemical name	Log Pow
Ethyl alcohol	-0.32

### Mobility in soil

#### **Mobility in soil**

No information available.

### Results of PBT and vPvB assessment

This substance is considered to be persistent, bioaccumulating and toxic (PBT).

### Other adverse effects

No information available

## Section 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### **Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**OTHER INFORMATION**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

<b>Section 14: TRANSPORT INFORMATION</b>
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**IMDG/IMO**

<b>14.1 UN-No</b>	Not regulated
<b>14.2 Proper shipping name</b>	Not regulated
<b>14.3 Hazard Class</b>	Not regulated
<b>14.4 Packing group</b>	Not regulated
<b>14.5 Marine pollutant</b>	Not applicable
<b>14.6 Special Provisions</b>	None
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available

**RID**

<b>14.1 UN-No</b>	Not Regulated
<b>14.2 Proper shipping name</b>	Not Regulated
<b>14.3 Hazard Class</b>	Not Regulated
<b>14.4 Packing group</b>	Not Regulated
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None

**ADR**

<b>14.1 UN-No</b>	Not Regulated
<b>14.2 Proper shipping name</b>	Not Regulated
<b>14.3 Hazard Class</b>	Not Regulated
<b>14.4 Packing group</b>	Not Regulated
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None

**ICAO**

<b>14.1 UN-No</b>	Not Regulated
<b>14.2 Proper shipping name</b>	Not Regulated
<b>14.3 Hazard Class</b>	Not Regulated
<b>14.4 Packing group</b>	Not Regulated
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None

**IATA**

<b>14.1 UN-No</b>	Not Regulated
<b>14.2 Proper shipping name</b>	Not Regulated
<b>14.3 Hazard Class</b>	Not Regulated
<b>14.4 Packing group</b>	Not Regulated
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None

<b>Section 15: REGULATORY INFORMATION</b>
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**Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work



**International Inventories**

Chemical name	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
Lactam	X	X	X	X	X	-	X	-
Ethyl alcohol 64-17-5	X	X	X	X	X	X	X	X

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**Chemical safety assessment**

No information available

**Section 16: OTHER INFORMATION****Full text of R-phrases referred to under sections 2 and 3**

R36 - Irritating to eyes

R22 - Harmful if swallowed

**Full text of H-Statements referred to under sections 2 and 3**

H360D - May damage the unborn child

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**Reason for revision**

Not Applicable.

**Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008**

**Disclaimer**

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet