

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

1.1. Product identifier

Product Code(s) TWK1396
Product name MAX3 Black
Pure substance/mixture Mixture
 Contains 2-Pyrrolidinone, 1-ethyl-

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

Recommended Use ink
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company Name
 Kao Collins Inc.
 1201 Edison Drive
 Cincinnati, OH 45216
 PH: 513-948-9000
 Info@kaocollins.com
 For further information, please contact

1.4. Emergency telephone number

Emergency telephone number Chemtrec 1-800-424-9300
Emergency Telephone International Chemtrec: +1 703-527-3887

Section 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 1 - (H318)
Reproductive toxicity	Category 1B - (H360D)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Product identifier
 Contains 2-Pyrrolidinone, 1-ethyl-



Signal word
 Danger

Hazard statements
 H318 - Causes serious eye damage

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

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

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

General Hazards

May cause skin and eye irritation. MAY CAUSE RESPIRATORY TRACT IRRITATION.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Lactam	Listed	-	15 - 45	Repr. 1B (H360D) Eye Dam. 1 (H318)	No data available
Modified Carbon Black	-	NOT AVAILABLE	1 - 10	no data available	No data available
Ethyl alcohol	EEC No. Present	64-17-5	1 - 5	Flam. Liq. 2 (H225) Chronic Aquatic 2 (H411)	No data available

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

NOTE

Remaining components are either not hazardous or below threshold limits.

Section 4: FIRST AID MEASURES

4.1. 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. Call a physician. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Skin Contact

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.

Eye contact

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.

Ingestion Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required.

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

Symptoms Hives.

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

Notes to Physician Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Use. Carbon dioxide (CO₂). Dry chemical. Alcohol resistant foam.

Unsuitable extinguishing media

None

5.2. 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

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. 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.

For emergency responders

Use personal protection recommended in Section 8.

6.2. 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. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3. 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 non-combustible 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.

6.4. Reference to other sections

See section 7 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

Use personal protective equipment as required. Avoid contact with eyes, skin 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.

7.2. 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.

7.3. Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical name	European Union	United Kingdom	France	Spain	Germany
Lactam					TWA: 5 ppm TWA: 23 mg/m ³ H*
Ethyl alcohol 64-17-5		TWA: 1000 ppm TWA: 1920 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 5000 ppm STEL: 9500 mg/m ³	VLA-ED: 1000 ppm VLA-ED: 1910 mg/m ³ VLA-ED	TWA: 500 ppm TWA: 960 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Ethyl alcohol 64-17-5		TWA: 1000 ppm	MAC: 500 ppm MAC; 1000 mg/m ³ MAC	TWA: 1900 mg/m ³ TWA: 1000 ppm STEL: 2500 mg/m ³ STEL: 1300 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Lactam		STEL: 4 ppm STEL: 18.8 mg/m ³			
Ethyl alcohol 64-17-5	STEL 2000 ppm STEL: 3800 mg/m ³ STEL MAK: 1000 ppm MAK; 1900 mg/m ³ MAK	STEL: 1000 ppm STEL: 1920 mg/m ³	NDS: 1900 mg/m ³	TWA: 500 ppm TWA: 950 mg/m ³ STEL: 1187.5 mg/m ³ STEL: 625 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. 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

9.1. Information on basic physical and chemical properties

Physical state	liquid	Odor	slight amine
Appearance	Black	Odor Threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point	> 89 °C	Seta Closed Cup
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		
Upper flammability limit:		No information available
Lower flammability limit:		No information available
Vapor pressure		No information available
Vapor density		No information available
Relative density	0.9 - 1.1	No information available
Water solubility		No information available
Solubility(ies)	Soluble in water	No information available
Partition coefficient		No information available
Autoignition temperature	>200 °C	No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity	< 15 cps	No information available
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

no data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

The product has not been tested.

Inhalation	May cause irritation of respiratory tract. Avoid breathing vapors or mists.
Eye contact	Avoid contact with eyes. May cause irreversible damage to eyes. Irritating to eyes.
IF ON SKIN	Avoid contact with skin. May cause irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. Do NOT taste or swallow.

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

ATEmix (oral) 4,419.50 mg/kg

ATEmix (inhalation-dust/mist) 4,361.66 mg/l

Unknown acute toxicity

4.368762 % of the mixture consists of ingredient(s) of unknown toxicity.

4.368762 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

4.368762 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

4.368762 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

4.368762 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

4.368762 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenic effects	This product contains Ethanol which is classified as a possible carcinogen when ingested in the form of an alcoholic beverage. This is irrelevant as this product is used for ink jet ink applications not an alcoholic beverage.
Reproductive toxicity	May impair fertility. Possible risk of impaired fertility. May cause harm to the unborn child. Possible risk of harm to the unborn child.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	blood, Central Nervous System (CNS), Eyes, liver, Reproductive System, blood, Skin.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Ecotoxicity effects

Not Established.

Contains 0.31876 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Ethyl alcohol		13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Partition coefficient
Ethyl alcohol	-0.32

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

IMDG/IMO

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

RID

14.1 UN-No	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Hazard Class	Not Regulated
14.4 Packing group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

ADR

14.1 UN-No	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Hazard Class	Not Regulated
14.4 Packing group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

IATA

14.1 UN-No	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Hazard Class	Not Regulated
14.4 Packing group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: REGULATORY INFORMATION

15.1. 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

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Lactam -	30.	

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

Component	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
Lactam (15 - 45)	X	X	X	X	X		X	
Ethyl alcohol 64-17-5 (1 - 5)	X	X	X	X	X	X	X	X

Legend 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 Chemical Substances/European 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

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under section 3

H318 - Causes serious eye damage

H360D - May damage the unborn child

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average)

Ceiling Maximum limit value

STEL

*

STEL (Short Term Exposure Limit)

Skin designation

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Disclaimer

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End of Safety Data Sheet