

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

1.1. Product identifier

Product Code(s) TWK2010H
 Product name Endurance Black
 Pure substance/mixture Mixture

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 2 - (H319)
-----------------------------------	---------------------

2.2. Label elements

Product identifier



Signal word
 Warning

Hazard statements

H319 - Causes serious eye irritation
 Contains 1,2-Benzisothiazolin-3-one

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

May be harmful if swallowed. Causes mild skin irritation. Combustible liquid.

General Hazards

May cause skin and eye 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	-	1 - 10	Eye Irrit. 2 (H319)	No data available
Triethanolamine	EEC No. Present	102-71-6	1 - 10	Eye Irrit. 2 (H319)	No data available
Alcohol	Listed	-	1 - 10	Acute Tox. 5 (H303) Skin Irrit. 2 (H315) Eye Irrit. 2B (H320) Acute Tox 5 (H333)	No data available
Urea	EEC No. Present	57-13-6	0.1 - <2	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) STOT SE 3 (H335)	No data available
Ethyl alcohol	EEC No. Present	64-17-5	0.01 - <1	Flam. Liq. 2 (H225)	No data available
1,2-Benzisothiazolin-3-one	EEC No. Present	2634-33-5	0.01 - <0.1	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	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	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Immediate medical attention is not required.
Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. Rinse mouth.
Self-protection of the first aider	Use personal protective equipment as required.

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

4.3. Indication of any immediate medical attention and special treatment needed**Notes to Physician**

May cause sensitization of susceptible persons. Use of epinephrine may be indicated.

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
Thermal decomposition can lead to release of irritating and toxic gases and vapors In the event of fire and/or explosion do not breathe fumes May cause sensitization in susceptible persons

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 protective equipment as required. Avoid contact with skin and eyes.

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.
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**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

After cleaning, flush away traces with water. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Prevent product from entering drains.

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. Ensure adequate ventilation.

Hygiene Measures

Wash contaminated clothing before reuse. When using do not eat or drink.

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

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

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
Triethanolamine 102-71-6				VLA-ED: 5 mg/m ³ VLA-ED	
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Triethanolamine 102-71-6		TWA: 5 mg/m ³	MAC: 5 mg/m ³ MAC	TWA: 5 ppm	TWA: 0.5 ppm TWA: 3.1 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Triethanolamine 102-71-6	STEL 1.6 ppm STEL (inhalable fraction); 10 mg/m ³ STEL (inhalable fraction) MAK: 0.8 ppm MAK (inhalable fraction); 5 mg/m ³ MAK (inhalable fraction)	STEL: 10 mg/m ³		TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 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.
Hand protection For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.
Skin and body protection Suitable protective clothing.
Respiratory protection None under normal use conditions.

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		
Property	Values	Remarks • Method	
pH		No information available	
Melting point / freezing point		No information available	
Boiling point/range (°C) VALUE		No information available	
Flash point	> 70 °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	1.0 - 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. Causes serious eye irritation.
IF ON SKIN	May cause irritation. May cause sensitization by skin contact. Avoid contact with skin.

Ingestion

May cause gastrointestinal discomfort if consumed in large amounts. May be harmful if swallowed. Do NOT taste or swallow.

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

ATEmix (oral) 2,993.60 mg/kg

ATEmix (dermal) 18,985.43 mg/kg

ATEmix (inhalation-vapor) 625.00 mg/l

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown 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	Dermal LD50	Inhalation LC50
Lactam	= 328 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 80 ppm (Rat) 8 h
Triethanolamine	= 4190 mg/kg (Rat)	> 20000 mg/kg (Rabbit) > 16 mL/kg (Rat)	
Urea	= 8471 mg/kg (Rat)		
Ethyl alcohol	= 7060 mg/kg (Rat)		= 124.7 mg/L (Rat) 4 h
1,2-Benzisothiazolin-3-one	= 1020 mg/kg (Rat)		

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Risk of serious damage to eyes. Irritating to eyes.

Sensitization

May cause an allergic skin reaction.

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. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Target organ effects

blood, Eyes, Skin, Gastrointestinal tract (GI).

Aspiration hazard

No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity**Ecotoxicity effects**

Not Established.

Contains 0 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Lactam	250: 72 h Desmodesmus subspicatus mg/L EC50 84: 96 h Desmodesmus subspicatus mg/L EC50	4600 - 10000: 96 h Brachydanio rerio mg/L LC50 static	3.4: 96 h Daphnia magna mg/L LC50
Triethanolamine	216: 72 h Desmodesmus subspicatus mg/L EC50 169: 96 h	1000: 96 h Pimephales promelas mg/L LC50 static 10600 - 13000: 96	1386: 24 h Daphnia magna mg/L EC50

	Desmodesmus subspicatus mg/L EC50	h Pimephales promelas mg/L LC50 flow-through 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static	
Urea		16200 - 18300: 96 h Poecilia reticulata mg/L LC50	3910: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna Straus mg/L EC50
Ethyl alcohol		12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	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
Lactam	-0.71
Triethanolamine	-2.53
Urea	-1.59
Ethyl alcohol	-0.32
1,2-Benzisothiazolin-3-one	1.3

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 does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

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 (1 - 10)	X	X	X	X	X	X	X	X
Triethanolamine 102-71-6 (1 - 10)	X	X	X	X	X	X	X	X
Alcohol (1 - 10)	X	X	X	X	X	X	X	X

Urea 57-13-6 (0.1 - <2)	X	X	X	X	X	X	X	X
Ethyl alcohol 64-17-5 (0.01 - <1)	X	X	X	X	X	X	X	X
1,2-Benzisothiazolin -3-one 2634-33-5 (0.01 - <0.1)	X	X	X	X	X	X	X	X

Legend Legend:

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

H302 - Harmful if swallowed
 H303 - May be harmful if swallowed
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H320 - Causes eye irritation
 H333 - May be harmful if inhaled
 H335 - May cause respiratory irritation
 H400 - Very toxic to aquatic life

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Prepared by Kao Collins Inc.
 1201 Edison Drive
 Cincinnati, OH 45216
 PH: 513-948-9000
 Info@kaocollins.com

Issuing Date 05-Sep-2018

Revision date 05-Sep-2018

Reason for revision No information available.

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