Safety Data Sheet

according to Regulation (EC) No. 1907/2006, as amended

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier: Specialty Black Ink, Type EKDTG1

Product code: 7442627

Synonyms: None.

1.2. Relevant identified uses of the substance or mixture and uses advised against:
1.2.1. Identified uses: ink or inkjet chemical

1.3. Details of the supplier of the safety data sheet: KODAK LIMITED, Building 8, Croxley Green Business Park, Hatters Lane, Watford, WD18 8PX, Great Britain

For further information about this product, telephone 0870-2430270 or email kes@kodak.com.

1.4. Emergency telephone number:

Available during office hours only. IN EMERGENCY, telephone: 844 892 0111.

2. Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 (CLP):

Hazard class / Hazard category	Hazard statements	Route of exposure
Eye Irrit. 2	H319	--
STOT RE 2	H373	Oral
Aquatic Chronic 3	H412	--

2.2. Label elements:

Labelling according to 1272/2008/EC [CLP/GHS]:

Contains: ethanediol , Methyloxirane polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1) , Ethanesulfonic acid, 2-(methyl((9Z)-1-oxo-9-octadecenyl)amino)-, potassium salt , Siloxanes and Silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether , 1,2-benzisothiazol-3(2H)-one , 2-methyl-2H-isothiazol-3-one

Symbol(s):

Signal word: Warning

Hazard statements:

Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure if swallowed.
Kidney
Harmful to aquatic life with long lasting effects.

Contains: 1,2-benzisothiazol-3(2H)-one, 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction.

Precautionary statements:

Prevention
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid release to the environment.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
Get medical advice/ attention if you feel unwell.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3. Other hazards
None known.

3. Composition/information on ingredients

Weight percent	Component	CAS-No. EC No. REACH Reg. No.	Classification according to 1272/2008/EC	Classification according to 67/548/EEC
5 - 10	ethanediol	107-21-1 203-473-3 not available	Acute Tox. 4 H302 *	*
5 - 10	glycerol	56-81-5 200-289-5 not available	**	**
1 - 5	Carbon black	1333-86-4 215-609-9 not available	**	**
1 - 5	Methyloxirane polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	182211-02-5 not available not available	Eye Dam. 1 H318 **	**
0.5 - 1	Ethanesulfonic acid, 2-(methyl((9Z)-1-oxo-9-octadecenyl)amino)-, potassium salt	130976-49-7 not available not available	Eye Dam. 1 H318 Aquatic Chronic 2 H411 **	**
0.5 - 1	Siloxanes and Silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	68938-54-5 not available not available	Aquatic Chronic 2 H412 **	**
0.1 - 0.5	triethylamine	121-44-8 204-469-4 not available	Flam. Liq. 2 H225 Acute Tox. 4 H302 Acute Tox. 4 H312 Acute Tox. 4 H332 Skin Corr. 1A H314 STOT SE 3 H335 *	*
0.01 - < 0.05	1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 not available	Acute Tox. 4 H302 Skin Irrit. 2 H315 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Acute 1 H400	*

			*	
0.01 - < 0.05	2-methyl-2H-isothiazol-3-one	2682-20-4 220-239-6 not available	Skin Corr. 1B H314 Eye Dam. 1 Skin Sens. 1 H317 STOT SE 3 H335 Aquatic Acute 1 H400 **	**

Full text of R- and H-phrases: see Section 16.
*** Substance classification as listed in Annex VI to Regulation (EC) No 1272/2008**
**** Substance not listed in Annex VI to Regulation (EC) No 1272/2008**

4. First aid measures

4.1. Description of first aid measures

4.1.1. Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

4.1.2. Skin: Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.

4.1.3. Eyes: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If easy to do, remove contact lens, if worn. If eye irritation persists: Get medical advice/ attention.

4.1.4. Ingestion: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed: Eye Irritation: Signs/symptoms may include localized redness, swelling, lachrymation, itching, dryness, and pain.
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

4.3. Indication of any immediate medical attention and special treatment needed: No information available.

5. Firefighting measures

5.1. Extinguishing Media: Water spray, Dry chemical, Carbon dioxide (CO2), Foam.

5.2. Special hazards arising from the substance or mixture
5.2.1. Hazardous Combustion Products: Carbon oxides, Nitrogen oxides (NOx)

5.2.2. Unusual Fire and Explosion Hazards: None.

5.3. Advice for firefighters: Wear self-contained breathing apparatus and protective suit. Fire or excessive heat may produce hazardous decomposition products.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures: Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions: Prevent runoff from entering drains, sewers, or streams.

6.3. Methods and materials for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

6.4. Reference to other sections: See Section 8 for recommendations on the use of personal protective equipment.

7. Handling and storage

7.1. Precautions for safe handling
7.1.1. Personal precautions: Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapour. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

7.1.2. Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

7.1.3. Ventilation: Match ventilation rates to conditions of use so as not to exceed any applicable exposure limits (see Section 8).

7.2. Conditions for safe storage, including any incompatibilities: Keep in a dry, cool and well-ventilated place. Cool conditions (5 - 30°C). Keep container tightly closed. Keep away from food, drink and animal feeding stuffs. Keep away from incompatible substances (see Incompatibility section.)

7.3. Specific end use(s): No information available.

8. Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure controls

Chemical name	Regulatory List	Value Type	Value
ethanediol	EH40	Time weighted average	10 mg/m3 *Form of exposure: particulates*
		Time weighted average	20 ppm 52 mg/m3 *Form of exposure: vapour*
		Short term exposure limit	40 ppm 104 mg/m3 *Form of exposure: vapour*
		Short term exposure limit	30 mg/m3 *Form of exposure: particulate* *Remarks: calculated* *Potential for cutaneous absorption*
glycerol		Time weighted average	10 mg/m3 *Form of exposure: mist*
		Short term exposure limit	30 mg/m3 *Form of exposure: mist* *Remarks: calculated*
Carbon black		Time weighted average	3.5 mg/m3
		Short term exposure limit	7 mg/m3
ethanediol	HSA	Time weighted average	20 ppm 52 mg/m3 *Form of exposure: vapour*
		Time weighted average	10 mg/m3 *Form of exposure: particulate*
		Short term exposure limit	40 ppm 104 mg/m3 *Form of exposure: vapour*
		Short term exposure limit	30 mg/m3 *Form of exposure: particulate* *Remarks: calculated* *Potential for cutaneous absorption*
Carbon black		Time weighted average	3 mg/m3 *Form of exposure: inhalable fraction*
		Short term exposure limit	15 mg/m3 *Form of exposure: inhalable fraction* *Remarks: calculated*

8.2. Exposure controls

8.2.1. Appropriate engineering controls: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

8.2.2. Individual protection measures, such as personal protective equipment

Eye protection: Wear safety glasses with side shields (or goggles).

Hand protection: Using the information provided in Section 2, seek the advice of the glove supplier as to the most suitable glove material. Avoid skin contact when mixing or handling the substance/preparation or a mixture by wearing impervious gloves and protective clothing appropriate to the risk of exposure.

Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact:

Material	Thickness	Breakthrough time
Nitrile rubber	>= 0.38 mm	> 480 min
Neoprene	>= 0.65 mm	> 240 min
butyl-rubber	>= 0.36 mm	> 480 min

Avoid natural rubber gloves.

The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

General health and safety measures: Safety shower, eye wash, washing facilities as appropriate to condition of use.

8.2.3. Environmental exposure controls: No information available.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid

Colour: black

Odour: No data available - testing not performed

Odour Threshold: No data available - testing not performed

pH: No data available - testing not performed

Melting point/freezing point: No data available - testing not performed

Initial boiling point and boiling range: No data available - testing not performed

Flash point: No data available - testing not performed

Evaporation rate: No data available - testing not performed

Flammability (Solid; gas) : No data available - testing not performed

Upper explosion limit: No data available - testing not performed

Lower explosion limit: No data available - testing not performed

Vapour pressure: No data available - testing not performed

Vapour density: No data available - testing not performed

Specific gravity: No data available - testing not performed

Water solubility: No data available - testing not performed

Partition coefficient: n-octanol/water: No data available - testing not performed

Auto-ignition temperature: No data available - testing not performed

Decomposition temperature: No data available - testing not performed

Viscosity: No data available - testing not performed

Explosive properties: No data available - testing not performed

Oxidizing properties: No data available - testing not performed

10. Stability and reactivity

10.1. Reactivity: No data available

10.2. Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions: Hazardous polymerisation does not occur.

10.4. Conditions to avoid: No data available

10.5. Incompatible materials: Strong oxidizing agents.

10.6. Hazardous decomposition products: None under normal conditions of use.

11. Toxicological information

Effects of Exposure

General advice:

Contains: ethanediol. severe effects after repeated or prolonged exposure Can cause kidney damage.

Contains: Carbon black. Since the 2006 IARC Monograph for carbon black was published, several investigators have challenged the animal evidence of carcinogenicity as being linked to species specific responses to lung overload that should not be used to predict human risk. While carbon black is carcinogenic to rats following inhalation or intratracheal exposure, it is not carcinogenic to mice, guinea pigs, rabbits or non-human primates by the inhalation route of exposure, or to hamsters by inhalation or intratracheal exposure. In their discussion of interspecies extrapolation, IARC notes that the inflammation seen with lung overload is associated with fibrosis and tumor formation in rats, while in humans fibrosis is reported, but not tumor formation. In December 2006, following publication of the monograph, Carter et al, detailed mechanisms of lung inflammation demonstrating that rats, as compared to mice and hamsters, exhibited the greatest pro-inflammatory response. In addition, a 2008 community based case-control study of cancer risk from occupational exposure to carbon black found no excess risk of lung cancer, further supporting the classification of inadequate evidence in humans. Collectively, the available animal data and human epidemiology studies suggest that carbon black, as contained in this product, does not present a cancer risk to the end user if the handling and personal protective measures contained within this Safety Data Sheet are understood and followed.

Contains: triethylamine. Airborne exposure may cause visual disturbances.

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

No data available

Corrositivity and irritation

- Skin irritation: slight
- Eye irritation: moderate

Sensitisation

No data available

CMR effects
Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

Specific target organ toxicity - single exposure

No information available.

Specific target organ toxicity - repeated exposure

- Ingestion (Kidney): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No information available.

Information on likely routes of exposure

Inhalation: Expected to be a low hazard for recommended handling.

Eyes: Causes serious eye irritation.

Skin: Causes mild skin irritation.

Ingestion: May cause irritation of the gastrointestinal tract if swallowed. May cause damage to organs through prolonged or repeated exposure if swallowed.

Data for ethanediol (CAS 107-21-1):

Acute Toxicity Data:
Oral LDLo (Humans): 1,600 mg/kg

- Oral LD50 (Rat): 4,700 mg/kg
- Inhalation (Rat): 2.5 mg/l / 6 hr
- Dermal LD50 (Rabbit): 10,607 mg/kg
- Dermal LD50 (Rat): 10,600 mg/kg
- Skin irritation: Mild skin irritation
- Eye irritation: none
- Sensitisation (human): none
- Sensitisation (Guinea pig): none

Data for glycerol (CAS 56-81-5):

Acute Toxicity Data:
Oral LD50 (Rat): 12,600 mg/kg

- Inhalation LC50 (Rat): > 570 mg/m3 / 1 hr
- Dermal LD50 (Rabbit): > 10 g/kg
- Skin irritation: slight
- Eye irritation: very slight

Data for Carbon black (CAS 1333-86-4):

Acute Toxicity Data:
Oral LD50 (Rat): > 5,000 mg/kg

- Oral LD50 (Rat): > 15,400 mg/kg
- Dermal LD50 (Rabbit): > 3,000 mg/kg
- Skin irritation: No skin irritation
- Eye irritation: No eye irritation
- Sensitisation (Guinea pig): Did not cause sensitisation on laboratory animals.

Mutagenicity/Genotoxicity Data:
Salmonella typhimurium assay (Ames test) (TA98, TA100, TA1535, TA1537, TA1538): negative (in presence and absence of activation)

- Mouse lymphoma assay: negative (in presence of activation)

Data for Methyloxirane polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1) (CAS 182211-02-5):

Acute Toxicity Data:
Oral LD50 (Rat): > 2,000 mg/kg OECD Test Guideline 401

- Inhalation LC50 (Rat): > 20 mg/l / 1 hr
- Dermal LD50 (Rabbit): > 2,000 mg/kg OECD Test Guideline 402
- Skin irritation: Mild skin irritation
- Eye irritation: severe

Data for triethylamine (CAS 121-44-8):

Acute Toxicity Data:
Oral LD50 (Rat): 460 mg/kg

- Inhalation LC50: 1,000 mg/l / 4 hr
- Inhalation LC50 (Rat): 1250 ppm / 4 hr
- Dermal LD50: 570 mg/kg
- Dermal LD50 (Rabbit): 415 mg/kg
- Skin irritation: Extremely corrosive and destructive to tissue.
- Eye irritation: severe

Mutagenicity/Genotoxicity Data:
Ames test: negative (in presence and absence of activation)

- Chromosomal aberration assay: positive (in presence of activation)

Data for 1,2-benzisothiazol-3(2H)-one (CAS 2634-33-5):

Acute Toxicity Data:
Oral LD50 (Rat): 1,020 mg/kg

Data for 2-methyl-2H-isothiazol-3-one (CAS 2682-20-4):

Acute Toxicity Data:
Oral LD50 (Rat): 232 - 249 mg/kg (50% in water)

- Oral LD50 (Rat): 120 mg/kg (50% in water)
- Inhalation LC50 (Rat): 0.11 mg/l / 4 hr
- Dermal LD50 (Rabbit): 200 mg/kg
- Sensitisation: positive

12. Ecological information

The following properties are ESTIMATED from the components of the preparations.

12.1. Toxicity

Toxicity to fish (LC50):	10 - 100 mg/l estimated
Toxicity to daphnia (EC50):	10 - 100 mg/l estimated

12.2. Persistence and degradability

Persistence and degradability:	Not readily biodegradable.

12.3. Bioaccumulative potential

No data available

12.4. 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.

Additional ecological information:

This product has not been tested for environmental effects.

13. Disposal considerations

13.1. Waste treatment methods

Dispose according to the local regulations or guidelines that apply to the category of waste. Ensure the use of properly authorised waste management companies.

Waste material: Waste material is currently classified as hazardous waste under Directive 2008/98/EC, as amended. European Waste Catalogue EWC: 08 03 12 waste ink containing dangerous substances

Product containers: If thoroughly cleaned, preferably by rinsing at least three times with small quantities of water, waste product packaging may be consigned for recovery or disposal as non hazardous waste. Whenever possible, minimize waste by using the rinsing water to make up the working solution. The European Waste Catalogue Code is 15 01 02 plastic packaging.

Dispose of contents/container in accordance with local regulation. The product does not need to be labelled in accordance with EC directives or respective national laws.

14. Transport information

Not regulated for all modes of transportation.

For more transportation information, go to: www.kodak.com/go/ship.

15. Regulatory information

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

1907/2006/EC - Annex XIV - Substances Subject to Authorization

This mixture does not contain substances which are subject to an authorization according to Regulation (EC) No. 1907/2006 (REACH).

1907/2006/EC - Potential Substances of Very High Concern

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Detergents Regulation (648/2004) - Derogations and Banned or Restricted Detergent Surfactants

This mixture does not contain substances listed in Detergents Regulation (648/2004) - Derogations and Banned or Restricted Detergent Surfactants

1907/2006/EC Article 59(1) - Candidate List of Substances Subject to Authorisation

This mixture contains no ingredient which is subject to an authorisation according to Regulation (EC) No. 1907/2006 (REACH).

1907/2006/EC - Annex XVII - Restrictions on Certain Dangerous Substances

This mixture contains ingredients which are subject to restrictions according to Regulation (EC) No. 1907/2006 (REACH): 2-methoxypropanol (216-455-5)

Notification status

Regulatory List	Notification status
TSCA	Not all listed
DSL	Not all listed
NDSL	Listed
EINECS	Not all listed
ELINCS	Listed
NLP	None listed
AICS	Not all listed
IECS	Not all listed
ENCS	Not all listed
ECI	Not all listed
NZIoC	Not all listed
PICCS	Not all listed
TCSI	Not all listed

TSCA 12(b) Listed

"Not all listed" indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Kodak.

15.2. Chemical safety assessment
Chemical safety assessment has not been performed.

16. Other information

16.1. Indication of changes
Corrected/updated:
composition data
classification(s)
label information
Minor changes may be present due to component or regulatory data updates

Review Safety Data Sheet before using product.

16.2. Key or legend to abbreviations and acronyms used in the safety data sheet
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS = Australian Inventory of Chemical Substances; CAS = Chemical Abstracts Service; CLP = Classification, Labelling, and Packaging; DSL = Canada Domestic Substances List; EC = European Commission; EC50 = Effective Concentration 50%; ECI = Korea Existing Chemicals list; EH40 = EH40/2005 Workplace Exposure Limits; EINECS = European Inventory of Existing Commercial chemical Substances; ELINCS = European List of Notified Chemical Substances; ENCS = Japan Existing and New Chemical Substances; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; HSA = Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents); IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; IC50 = Inhibitory Concentration 50%; IECS = China Inventory of Existing Chemical Substances; IMDG = International Maritime Dangerous Goods; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m3 = milligrams per Cubic Meter; NDSL = Canada Non-Domestic Substances List; NLP = Europe No Longer Polymers; NZIoC = New Zealand Inventory of Chemicals; PBT = Persistent, Bioaccumulative and Toxic substances; PICCS = Philippines Inventory of Chemicals and Chemical Substances; ppm = parts per million; REACH= Registration, Evaluation and Authorization of Chemicals; RID = European Agreement concerning the International Carriage of Dangerous Goods by Rail; TSCA = Toxic Substances Control Act; vPvB = very Persistent, very Bioaccumulative substances

16.3. Key literature references and sources for data
Available upon request.

16.4. Methods used for classification of mixture according to Regulation (EC) No 1272/2008

The determination of classifications is derived via expert judgment and/or weight of evidence.

16.5. Relevant R- and H-phrases

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.6. Training advice

Review Safety Data Sheet before using product.

16.7. Further information

This Safety Data Sheet has been compiled and is solely intended for this product. The information is based upon the present state of our knowledge.