

1. Identification

Product identifier:	E-Series Black	
Product code:	ZKE	
Supplier Name:	Image Armor, LLC 3509 Brightwood Rd SE New Philadelphia, OH 44663 United States of America	Supplier in Australia: Astech Solutions Pty Ltd U 32 / 87 Railway Rd Nth Mulgrave NSW 2756 Phone: 02-9629 8963 www.astechsolutions.com.au
Further information:	+1 877-673-4377 email: info@imagearmorpt.com	
Emergency telephone number:	+1 330-934-0524	
Available hours:	24h	
Recommended use:	Inkjet	
Restrictions on use:	For industrial use only	

2. Hazard identification

Hazard classification: **WARNING**

Product classification:



Specific target organ toxicity – repeated exposure, Oral, Kidney (Category 2)

Serious eye irritation - Category 2A

May be harmful if swallowed - Category 5

Hazard statement(s): H319 Causes serious eye irritation.
H303 May be harmful if swallowed.
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary statement(s):

Prevention: P260 Do not breathe dust/fumes/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.



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- Response:** P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do – continue rinsing.
P337+313 If eye irritation persists get medical attention/advice
P301+312+330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
- Disposal:** P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Storage:** P404 Store in a closed container.
- Carcinogenicity:** Carbon black (CAS# 1333-86-4) is listed by the International Agency for Research on Cancer (IARC) as a Group 2B substance (possibly carcinogenic to humans). See Section 11.

3. Composition / Information on Ingredients

No	CAS No	CAS Name	% (W/W)
1	107-21-1	1,2-Ethanediol	8.0
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	0.048
3	1333-86-4	Carbon black (C.I. pigment black 7)	3.36
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	1.3

4. First Aid Measures

If swallowed, or irritation occurs, or any type of overexposure or symptoms of overexposure occur during use of the product, or persists after use, immediately contact a POISON CENTER, an EMERGENCY ROOM or a PHYSICIAN; ensure that the product safety data sheet is available.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.



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Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Symptoms: Red eyes, itching and tearing.

Effects (acute or delayed): May cause irritation of the eyes.

Immediate Medical Attention and Special Treatment: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-Fighting Measures

Suitable extinguishing media: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Specific hazards arising from the hazardous product: Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides.

Special protective equipment and precautions for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental Release Measures

Personal precautions and protective equipment: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Emergency procedures: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant



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authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion proof equipment. Dispose of via a licensed waste disposal contractor.

7. Handling and Storage

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls / Personal Protection

No	CAS No	CAS Name	IDHL mg/m ³	TWA mg/m ³	STEL mg/m ³	CEIL mg/m ³
1	107-21-1	1,2-Ethandiol	Not available	25ppm	10	100
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	Not available	Not available	Not available	Not available
3	1333-86-4	Carbon black (C.I. pigment black 7)	Not available	3.0	7.0	Not available
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	Not available	Not available	Not available	Not available

IDHL: Immediately Dangerous to Life or Health Concentrations

TWA: Time Weighted Average

STEL: Short -Term Exposure Limit

CEIL: Ceiling Limit

Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering



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controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyes: DO NOT WEAR CONTACT LENSES Wear anti-splash safety goggles.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.

Respiratory: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Others: Not available.

9. Physical and Chemical Properties

Physical state: Liquid

Colour: Black

Odour: Not specific

Odour threshold: Not available

pH: 8.3 – 8.9

Melting/Freezing point: 0°C (32°F)

Initial boiling point/boiling range: 100°C (212°F)

Flash point: Not applicable

Lower flammable/explosive limit: Not applicable

Upper flammable/explosive limit: Not applicable

Auto-ignition temperature: Not applicable

Evaporation rate: 0,04 (ether=1)

Vapour pressure: 16.1 mm Hg at 20 °C

Vapour density: > 1 (Air=1)

Relative density: 1,05 Kg/L



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Solubility in water: Soluble

Partition coefficient - n-octanol/water: Not applicable

Decomposition temperature: Not available

Kinematic viscosity: 3.5 – 5.0 mPas

10. Stability and Reactivity

Reactivity: Stable under recommended conditions of storage and handling.

Chemical stability: The product is chemically stable under normal conditions of use.

Possibility of hazardous reactions: No dangerous or polymerization reactions will not occur under normal conditions of use.

Conditions to avoid: Not applicable.

Incompatible materials: Finely divided metals (Ba, Be, Na, P, Al, Mg etc.). Strong oxidizing agents. Strong acids and bases.

Hazardous decomposition products: Carbon monoxide and dioxide. Nitrogen oxides.

11. Toxicological Information

Effects of Exposure

General advice:

Contains: 1,2-Ethanediol (Ethylene glycol). 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



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Data Sheet are understood and followed.

No	CAS No	CAS Name	(1) LD oral	(2) LD Skin	(3) LD Skin	(4) LC gases	(5) LC vapours	(6) LC dusts-mists
1	107-21-1	1,2-Ethanediol	4,700	10,600	10,607	Not Available	2.5	>5.00
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	1,020	Not Available	Not Available	Not Available	Not Available	Not Available
3	1333-86-4	Carbon black (C.I. pigment black 7)	>15,400	Not Available	>3,000	Not Available	Not Available	Not Available
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	2,000	Not Available	Not Available	20	Not Available	Not Available

(1) LD50 oral rat mg/kg

(2) LD50 skin rat mg/kg

(3) LD50 skin rabbit mg/kg

(4) LD50 inhalation rat ppmV 4h gases

(5) LD50 inhalation rat mg/l 4h vapours

(6) LD50 inhalation rat mg/l 4h dusts-mist

Routes of exposure: This product is absorbed by the digestive tract.

Symptoms: Red eyes, itching and tearing.

Delayed and immediate effects: May cause irritation of eyes.

No	CAS No	CAS Name	IARC	ACGIH	Mutagenicity	Effect on reproduction
1	107-21-1	1,2-Ethanediol	No effect shown	No effect shown	Not available	Not available
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	No effect shown	No effect shown	Not available	Not available
3	1333-86-4	Carbon black (C.I. pigment black 7)	2B	Not available	No effect shown	No effect shown
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	Not available	Not available	Not available	Not available

Cancer classification under IARC (International Agency for Research on Cancer)

Group 1: carcinogenic to humans

Group 2A: probably carcinogenic to humans



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Group 2B: possibly carcinogenic to humans

Group 3: not classifiable as to its carcinogenicity to humans

Group 4: probably not carcinogenic to humans

Cancer classification under ACGIH: American Conference of Governmental Industrial Hygienists

Group A1: confirmed human carcinogen

Group A2: suspected human carcinogen

Group A3: confirmed animal carcinogen with unknown relevance to humans

Group A4: not classifiable as a human carcinogen

Group A5: not suspected as a human carcinogen

California Prop 65: This product contains a chemical (1,2-Ethanediol) known to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

12. Ecological Information

No	CAS No	CAS Name	%	Persistent	Bioaccumulation	Aquatic Ecotoxicity
1	107-21-1	1,2-Ethanediol	8.0	Not Available	No	Not Available
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	0.004	Not Available	Not Available	Not Available
3	1333-86-4	Carbon black (C.I. pigment black 7)	3.36	No	No	Not Available
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	1.3	Not Available	Not Available	Not Available

No	CAS No	CAS Name	%	Ecotoxicity for aquatic organisms-Short term	Ecotoxicity for aquatic organisms-Long term	Environmental effects
1	107-21-1	1,2-Ethanediol	8.0	EC50 - Daphnia - 74,000 mg/l - 24 h	NOEC – Pimephales promelas - 32,000 mg/l - 7d	Not Available
2	2634-33-5	1,2-Benzisothiazol-3(2H)-one	0.004	EC50 - Daphnia - 4.4 mg/l - 48 h	Not Available	Not Available
3	1333-86-4	Carbon black (C.I. pigment black 7)	3.36	EC50 - Daphnia – 5,600 mg/l - 24 h	Not Available	Not Available
4	182211-02-5	Oxirane, methyl-, polymer with oxirane, ether with 2,4,7,9-tetramethyl-5-decyne-4,7-diol (2:1)	1.3	EC50 - Daphnia - 167 mg/l - 48 h	EC50 – Pseudokirchneriella subcapitata - 128 mg/l - 96 h	Not Available



13. Disposal Considerations

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

14. Transport Information

	TDG	DOT	IMDG	IATA
UN Number				
Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
Transport hazard class(es)				
Packing group				

Other information

Marine pollutant: No

IMDG: Not applicable

15. Regulatory Information

All ingredients are listed on the DSL/NDSL or in compliance with the inventory.

All ingredients are listed on TSCA or in compliance with the inventory.

All ingredients are listed on the EINECS or in compliance with the inventory.

German WGK Water hazard class: 1 Appendix No. 4.

The customer is responsible for determining the PPE (personal protection equipment) code for this material.

California Prop 65: This product contains a chemical (1,2-Ethandiol) known to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

The classification of the product and the SDS were developed in accordance with HPR.

16. Other Information



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