

SAFETY DATA SHEET

Revision Number 1.1

1. Identification

Product identifier

Insta-Blak 335 **CASWELL PRODUCT NAME: ULTRABLACK OXIDE EPI Product Name**

Other means of identification

EPI-0707C **CASWELL PRODUCT CODE: UBO** Product Code(s)

UN3082 **UN** number or ID number

Black Oxide **Synonyms**

Details of the supplier of the safety data sheet

Manufacturer Address

Electrochemical Products Inc. 17000 West Lincoln Ave New Berlin, WI 53151 Phone: 262-786-9330 E-mail: us-sales@epi.com

www.epi.com

Fax: 262-786-9403

Supplied in Australia by

Caswell Australia P/L Factory 1, 51 Elm Park Drive Hoppers Crossing, Victoria, 3029

Phone 03 9741 7103

www.caswellplating.com.au

Emergency telephone number Emergency telephone number 000

Emergency Telephone

NCEC (#EPI-29003) +1 202 464 2554, +44 1865 407333

2. Hazard(s) identification

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Causes skin irritation Causes serious eye irritation

May cause cancer

May cause damage to organs through prolonged or repeated exposure



Appearance Clear Solution Physical state Liquid Odor Characteristic

Precautionary Statements - Prevention

Obtain special instructions before use

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

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

Wash face, hands and any exposed skin thoroughly after handling

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

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 ON SKIN: Wash with plenty of water and soap If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

May be harmful if swallowed. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	80-100	*
Selenious acid	7783-00-8	1-3	*
Trade secret	Trade secret	1-3	*
Trade secret	Trade secret	0.5-1.5	*
Sulfuric acid, copper(2+) salt (1:1)	7758-98-7	0.1-1	*
Phosphoric acid	7664-38-2	0.1-0.9	*
Nitric acid	7697-37-2	0.2-0.9	*
Tetrasodium EDTA	64-02-8	0.1-0.2	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice

IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the

doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and

persists.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Burning sensation.

Indication of any immediate medical attention and special treatment needed

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate

personnel to safe areas. Avoid contact with skin, eyes or clothing.

Other information Refer to protective measures listed in Sections 7 and 8.

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 Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using

this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Selenious acid	TWA: 0.2 mg/m³ Se	TWA: 0.2 mg/m³ Se	IDLH: 1 mg/m ³ Se
7783-00-8		(vacated) TWA: 0.2 mg/m ³ Se	TWA: 0.2 mg/m ³ except
			Selenium hexafluoride Se
Trade secret	STEL: 6 ppm	TWA: 3 ppm	IDLH: 30 ppm
	TWA: 3 ppm	TWA: 6 mg/m ³	TWA: 3 ppm
		(vacated) TWA: 3 ppm	TWA: 8 mg/m ³
		(vacated) TWA: 8 mg/m ³	STEL: 6 ppm
		(vacated) STEL: 6 ppm	STEL: 15 mg/m ³
		(vacated) STEL: 15 mg/m ³	
Trade secret	STEL: 20 mg/m³ fume	(vacated) TWA: 10 mg/m ³	TWA: 10 mg/m ³ fume
	TWA: 10 mg/m³ fume	fume	STEL: 20 mg/m³ fume
		(vacated) STEL: 20 mg/m ³	
		fume	
Sulfuric acid, copper(2+) salt	TWA: 1 mg/m³ Cu dust and mist	-	IDLH: 100 mg/m³ Cu dust and
(1:1)			mist
7758-98-7			TWA: 1 mg/m ³ Cu dust and
			mist
Phosphoric acid	STEL: 3 mg/m ³	TWA: 1 mg/m ³	IDLH: 1000 mg/m ³
7664-38-2	TWA: 1 mg/m ³	(vacated) TWA: 1 mg/m ³	TWA: 1 mg/m ³
		(vacated) STEL: 3 mg/m ³	STEL: 3 mg/m ³
Nitric acid	STEL: 4 ppm	TWA: 2 ppm	IDLH: 25 ppm
7697-37-2	TWA: 2 ppm	TWA: 5 mg/m ³	TWA: 2 ppm
		(vacated) TWA: 2 ppm	TWA: 5 mg/m ³
		(vacated) TWA: 5 mg/m ³	STEL: 4 ppm
		(vacated) STEL: 4 ppm	STEL: 10 mg/m ³
		(vacated) STEL: 10 mg/m ³	

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and

immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid

contact with skin, eyes or clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical stateLiquidAppearanceClear SolutionColorlight blueOdorCharacteristic

Property Values Remarks • Method

None known pН 2.1 - 2.7 0 °C / 32 °F None known Melting point / freezing point 103.3 °C / 217.9 °F Boiling point / boiling range None known Flash point No data available None known Relative density 1.05 - 1.075 None known Water solubility Completely None known

Other information

VOC Content (%)

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoidNone known based on information supplied.

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of

respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation.

(based on components). May cause redness, itching, and pain.

Skin contact Specific test data for the substance or mixture is not available. Causes skin irritation. (based

on components).

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause

gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. May cause redness and tearing of the eyes.

Acute toxicity

Numerical measures of toxicity

No information available

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

ATEmix (oral) 2,466.40 mg/kg
ATEmix (dermal) 29,965.30 mg/kg
ATEmix (inhalation-dust/mist) 13.90 mg/l

Component Information

Component information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
7732-18-5			
Trade secret	= 1720 mg/kg (Rat)	= 1000 mg/kg (Rabbit)	> 1.3 mg/L (Rat) 6 h
Trade secret	= 1650 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7	= 300 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Phosphoric acid 7664-38-2	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m³ (Rat)1 h
Nitric acid 7697-37-2	-	-	= 2500 ppm (Rat) 1 h
Tetrasodium EDTA 64-02-8	= 1658 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritationClassification based on data available for ingredients. Irritating to skin.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for

ingredients. May cause cancer.

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

The table below indicates whether each agoney has noted any ingredient as a carolinegen.				
Chemical name	ACGIH	IARC	NTP	OSHA
Selenious acid 7783-00-8	-	Group 3	-	-
Nitric acid 7697-37-2	-	Group 2A Group 1	-	Х

Legend

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Target organ effects Respiratory system, Eyes, Skin, Central nervous system.

Aspiration hazard

Other adverse effects

No information available.

Interactive effects

No information available.

12. Ecological information

Ecotoxicity

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Trade secret	EC50: =15mg/L (72h, Desmodesmus subspicatus)	LC50: 114 - 196mg/L (96h, Oncorhynchus mykiss) LC50: 300 - 1000mg/L (96h, Lepomis macrochirus) LC50: =227mg/L (96h, Pimephales promelas) LC50: =3684mg/L (96h, Brachydanio rerio) LC50: >200mg/L (96h, Oncorhynchus mykiss)	<u>-</u>	EC50: =65mg/L (48h, Daphnia magna)
Trade secret	-	LC50: =209mg/L (96h, Cyprinus carpio)	-	-
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7	-	LC50: =0.1mg/L (96h, Oncorhynchus mykiss)	-	EC50: 0.0058 - 0.0073mg/L (48h, Daphnia magna)
Tetrasodium EDTA 64-02-8	EC50: =1.01mg/L (72h, Desmodesmus subspicatus)	LC50: =41mg/L (96h, Lepomis macrochirus) LC50: =59.8mg/L (96h, Pimephales promelas)	-	-

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name Partition coefficient

Trade secret	-1.91
Nitric acid 7697-37-2	-2.3

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Do not reuse empty containers. Contaminated packaging

US EPA Waste Number U204

14. Transport information

DOT

UN number or ID number UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group

Reportable Quantity (RQ) (Sulfuric acid, copper sulfate): RQ (kg)= 4.54, Selenious acid: RQ (kg)= 4.54) Sulfuric

acid, copper sulfate): RQ (lb)= 10, Selenious acid: RQ (lb)= 10

Sulfuric acid, copper sulfate): RQ (kg)= 504.00, Selenious acid: RQ (kg)= 157.00

DOT reportable quantity kg

(calculated)

DOT Reportable Quantity lbs.

(calculated)

Sulfuric acid, copper sulfate): RQ (lb)= 1111.00, Selenious acid: RQ (lb)= 345.00

Special Provisions

DOT Marine Pollutant

Marine pollutant Selenious acid, Sulfuric acid, copper sulfate

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III, Marine pollutant

8, 146, 173, 335, IB3, T4, TP1, TP29

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TDG

UN number or ID number

Environmentally hazardous substance, liquid, n.o.s. **UN** proper shipping name

Transport hazard class(es) **Packing group** Ш **Special Provisions** 16.99

Selenious acid, Sulfuric acid, copper sulfate Marine pollutant

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III

MEX

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group Ш

Technical Name Selenious acid, Sulfuric acid, copper sulfate

UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric Description

acid, copper sulfate), 9, III

274, 331, 335 **Special Provisions**

ICAO (air)

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III

A97, A158, A197, A215 **Special Provisions**

IATA

UN3082 **UN** number or ID number

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group

Technical Name Selenious acid, Sulfuric acid, copper sulfate

UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric Description

acid, copper sulfate), 9, III

Special Provisions A97, A158, A197

ERG Code 9L

IMDG

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group Ш **EmS-No** F-A, S-F **Special Provisions** 274, 335, 969

Marine pollutant

Marine Pollutant Selenious acid, Sulfuric acid, copper sulfate

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III, Marine pollutant

RID

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) q Ш **Packing group** Classification code M6

Special Provisions 274, 335, 375, 601

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III

ADR

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) **Packing group** Ш Classification code M6 **Tunnel restriction code** (-)

Special Provisions 274, 335, 601, 375

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric

acid, copper sulfate), 9, III, (-)

ADN

UN number or ID number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Transport hazard class(es) Packing group Ш Classification code M6

Special Provisions 274, 335, 375, 601

UN3082, Environmentally hazardous substance, liquid, n.o.s. (Selenious acid, Sulfuric Description

acid, copper sulfate), 9, III

PΡ **Equipment Requirements**

15. Regulatory information

International Inventories

TSCA Complies

Chemical name	CAS No	US TSCA Inventory listing	US TSCA inactive/active designation
Water	7732-18-5	Present	Active
Selenious acid	7783-00-8	Present	Active
Trade secret	-	Present	Active
Trade secret	-	Present	Active
Trade secret	-	Present	Active
Sulfuric acid, copper(2+) salt (1:1)	7758-98-7	Present	Active
Phosphoric acid	7664-38-2	Present	Active
Nitric acid	7697-37-2	Present	Active
Tetrasodium EDTA	64-02-8	Present	Active

DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Does not comply
IECSC Complies
KECL Does not comply
PICCS Does not comply
AICS Does not comply

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Selenious acid	10 lb	10 lb	RQ 10 lb final RQ
7783-00-8			RQ 4.54 kg final RQ

Trade secret	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Phosphoric acid 7664-38-2	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	Х
Selenious acid 7783-00-8	X	-	Х
Trade secret	X	-	X
Trade secret	X	-	X
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7	X	-	X
Phosphoric acid 7664-38-2	Х	-	X
Nitric acid 7697-37-2	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 2 Flammability 0 Instability 0 Special hazards -Health hazards 2 * Flammability 0 Physical hazards 0 Personal protection X HMIS

Chronic Hazard Star Legend * = Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA (time-weighted average) STEL STEL (Short Term Exposure Limit) TWA

Ceiling Maximum limit value Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA) EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 1 January 2024

Revision NoteNo information available.

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet