



Safety Data Sheet

Material Name: Insta Blak S334

SDS ID: EPI-0316

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Insta Blak S334

Product Use

Blackening Solution.

Details of the supplier of the safety data sheet

Electrochemical Products Inc.

17000 West Lincoln Ave

New Berlin, WI 53151

Phone: 262-786-9330

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

E-mail: us-sales@epi.com

www.epi.com

Fax: 262-786-9403

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Hazardous to the Aquatic Environment - Acute - Category 1

Hazardous to the Aquatic Environment - Chronic - Category 1

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Causes severe skin burns and eye damage.

Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

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

Wash thoroughly after handling.

Avoid release to the environment.

Do not breathe dusts or mists.

Response

Collect spillage.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.



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

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor.

Specific treatment (see label).

Storage

Store locked up.

Disposal

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

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Component Name | Percent |
|-----------|--------------------------------------|---------|
| 7732-18-5 | Water | 80-100 |
| 7783-00-8 | Selenious acid | 0.5-1.5 |
| 7697-37-2 | Nitric acid | 0.5-1.5 |
| 7758-98-7 | Sulfuric acid, copper(2+) salt (1:1) | 0.5-1.5 |

The above percentage ranges are in compliance with the Canadian Workplace Hazardous Information System (WHMIS). Trade secret components.

Section 4 - FIRST AID MEASURES

Inhalation

If inhaled, immediately remove the affected person to fresh air. Give artificial respiration if not breathing.

Skin

Immediately flush skin with lots of running water for 30 minutes. Remove contaminated clothing and shoes. Wash before reuse. Get immediate medical attention.

Eyes

In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 30 minutes.

Ingestion

If swallowed, dilute by giving a glass of water. See a physician. Do not give anything by mouth to an unconscious person.

Most Important Symptoms/Effects

Acute

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. It causes conjunctivitis leading eventually to an allergic type of reaction of the eyes. Acute selenium poisoning produces central nervous system effects, which include nervousness, convulsions, and drowsiness. Other signs of gastrointestinal distress, teeth that are discolored or decayed, odorous (garlic-like) breath, and partial loss of hair and nails. Chronic exposure by inhalation can produce symptoms that include pallor, coating of the tongue, anemia, irritation of the mucosa, lumbar pain, liver and spleen damage, as well as any of the other previously mentioned symptoms.



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Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Unsuitable Extinguishing Media

None known.

Hazardous Combustion Products

May produce toxic selenous fumes.

Fire Fighting Measures

Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing.

Firefighters should avoid inhaling any combustion products.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Isolate area. Keep unnecessary personnel away. Wear appropriate personal protective equipment.

Methods and Materials for Containment and Cleaning Up

Stop source of leak if possible. Contain the discharged material, if this is without risk. Block any potential routes to water systems. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

Environmental Precautions

Do not allow to enter sewers or waterways. Incinerate spent absorbent material in an approved incinerator.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

Keep container tightly closed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

| | |
|----------------|---|
| Selenious acid | 7783-00-8 |
| ACGIH: | 0.2 mg/m ³ TWA as Se (related to Selenium compounds) |
| NIOSH: | 0.2 mg/m ³ TWA (except Selenium hexafluoride) as Se (related to Selenium compounds) |
| | 1 mg/m ³ IDLH as Se (related to Selenium compounds) |
| OSHA (US): | 0.2 mg/m ³ TWA as Se (related to Selenium compounds) |
| Mexico: | 0.2 mg/m ³ TWA [VLE-PPT] as Se (related to Selenium compounds) |



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| | |
|-------------|--|
| Nitric acid | 7697-37-2 |
| ACGIH: | 2 ppm TWA |
| | 4 ppm STEL |
| NIOSH: | 2 ppm TWA ; 5 mg/m3 TWA |
| | 4 ppm STEL ; 10 mg/m3 STEL |
| | 25 ppm IDLH |
| Europe: | 1 ppm STEL ; 2.6 mg/m3 STEL |
| OSHA (US): | 2 ppm TWA ; 5 mg/m3 TWA |
| Mexico: | 2 ppm TWA [VLE-PPT] ; 5 mg/m3 TWA [VLE-PPT] |
| | 4 ppm STEL [PPT-CT] ; 10 mg/m3 STEL [PPT-CT] |

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

If operations generate vapor or mist, use adequate general or local ventilation to keep airborne concentrations below exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses with side shields or chemical goggles.

Skin Protection

Use of protective coveralls and long sleeves is recommended to prevent skin contact.

Respiratory Protection

If ventilation is not sufficient to effectively prevent buildup of vapor/mist/fume/dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Glove Recommendations

Use of impervious gloves is recommended.

Protective Materials

Eye wash fountain and emergency showers are recommended. Use good industrial hygiene practices in handling this material.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------|---------------------|----------------|---------------|
| Appearance | Light Blue Solution | Physical State | Liquid |
| Odor | Acid | Color | Not available |
| Odor Threshold | Not available | pH | 0 - 1 |



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| | | | |
|---------------------------------|--------------------------|---|-----------------|
| Melting Point | Not available | Boiling Point | 212 °F (100 °C) |
| Boiling Point Range | Not available | Freezing point | 32 °F (0 °C) |
| Evaporation Rate | (Approx. equal to Water) | Flammability (solid, gas) | Not available |
| Autoignition Temperature | Not available | Flash Point | Not available |
| Lower Explosive Limit | Not available | Decomposition temperature | Not available |
| Upper Explosive Limit | Not available | Vapor Pressure | Not available |
| Vapor Density (air=1) | (Approx. equal to water) | Specific Gravity (water=1) | 1 - 1.07 |
| Water Solubility | Completely | Partition coefficient: n-octanol/water | Not available |
| Viscosity | Not available | Kinematic viscosity | Not available |
| Solubility (Other) | Not available | Density | Not available |
| VOC | 0 | Molecular Weight | Not available |

Section 10 - STABILITY AND REACTIVITY

Reactivity

No known hazardous reactions.

Chemical Stability

This is a stable material.

Possibility of Hazardous Reactions

Will not occur.

Conditions to Avoid

Avoid contact with extreme heat.

Incompatible Materials

This product may react with strong acids. This product may react with strong reducing agents. Organic compounds and cyanides.

Hazardous decomposition products

May produce volatile organoselenides or hydrogen selenide.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50



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The components of this material have been reviewed in various sources and the following selected endpoints are published:

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Nitric acid (7697-37-2)

Inhalation LC50 Rat 2500 ppm 1 h

Sulfuric acid, copper(2+) salt (1:1) (7758-98-7)

Oral LD50 Rat 300 mg/kg

Dermal LD50 Rabbit 1000 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

| | |
|--------------------|---------|
| Dermal | 0 mg/kg |
| Inhalation - Vapor | 0 mg/L |
| Oral | 0 mg/kg |

Immediate Effects

No information on significant adverse effects.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

| | |
|-----------------------|---|
| Selenious acid | 7783-00-8 |
| IARC: | Supplement 7 [1987] ; Monograph 9 [1975] (related to Selenium compounds) (Group 3 (not classifiable)) |
| DFG: | Category 3B (could be carcinogenic for man) (related to Selenium inorganic compounds) |

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration hazard

No data available.



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Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

| | |
|--------------------------------------|--|
| Sulfuric acid, copper(2+) salt (1:1) | 7758-98-7 |
| Fish: | LC50 96 h Oncorhynchus mykiss 0.1 mg/L |
| Invertebrate: | EC50 48 h Daphnia magna 0.0058 - 0.0073 mg/L [Static] EPA |

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: CORROSIVE LIQUIDS, N.O.S. , (Contains: Nitric Acid , Selenous Acid)

Hazard Class: 8

UN/NA #: UN1760

Packing Group: II

Required Label(s): Corrosive

Marine pollutant

TDG Information:

Shipping Name: CORROSIVE LIQUID, N.O.S. , (Contains: Nitric Acid , Selenous Acid)

Hazard Class: 8

UN#: UN1760

Packing Group: II

Required Label(s): Corrosive

Marine pollutant

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

| | |
|-------------|---|
| Nitric acid | 7697-37-2 |
| IBC Code: | Category Y (>=70%); Category Y (<70%) |

Section 15 - REGULATORY INFORMATION



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U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

| | |
|---|--|
| Selenious acid | 7783-00-8 |
| SARA 302: | 1000 lb lower TPQ ; 10000 lb upper TPQ |
| SARA 313: | 1 % de minimis concentration (related to Selenium compounds) |
| CERCLA: | 10 lb final RQ ; 4.54 kg final RQ |
| SARA 304: | 10 lb EPCRA RQ |
| Nitric acid | 7697-37-2 |
| SARA 302: | 1000 lb TPQ |
| SARA 313: | 1 % de minimis concentration |
| CERCLA: | 1000 lb final RQ ; 454 kg final RQ |
| OSHA (safety): | 500 lb TQ (>=94.5% by weight) |
| SARA 304: | 1000 lb EPCRA RQ |
| Sulfuric acid, copper(2+) salt (1:1) | 7758-98-7 |
| CERCLA: | 10 lb final RQ ; 4.54 kg final RQ |

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS | CA | MA | MN | NJ | PA |
|---|------------------|-----|-----|-----|-----|-----|
| Selenious acid | 7783-00-8 | Yes | Yes | Yes | Yes | Yes |
| Nitric acid | 7697-37-2 | Yes | Yes | Yes | Yes | Yes |
| Sulfuric acid, copper(2+) salt (1:1) | 7758-98-7 | Yes | Yes | No | Yes | Yes |

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Not listed under California Proposition 65.

Component Analysis - Inventory

Water (7732-18-5)

| | | | | | | | | |
|----|----|----|----|----|-----------|-----------|-------------------|-------------------|
| US | CA | AU | CN | EU | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
|----|----|----|----|----|-----------|-----------|-------------------|-------------------|



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| | | | | | | | | |
|-----|-----|-----|-----|-----|----|----|-----|----|
| Yes | DSL | Yes | Yes | EIN | No | No | Yes | No |
|-----|-----|-----|-----|-----|----|----|-----|----|

| | | | | | | |
|----------------|-----|-----|-----|---------|-----|------------|
| KR - REACH CCA | MX | NZ | PH | TH-TECI | TW | VN (Draft) |
| No | Yes | Yes | Yes | No | Yes | No |

Selenious acid (7783-00-8)

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| US | CA | AU | CN | EU | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
| Yes | DSL | Yes | Yes | EIN | Yes | Yes | Yes | No |

| | | | | | | |
|----------------|-----|-----|-----|---------|-----|------------|
| KR - REACH CCA | MX | NZ | PH | TH-TECI | TW | VN (Draft) |
| No | Yes | Yes | Yes | No | Yes | No |

Nitric acid (7697-37-2)

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| US | CA | AU | CN | EU | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
| Yes | DSL | Yes | Yes | EIN | Yes | Yes | Yes | No |

| | | | | | | |
|----------------|-----|-----|-----|---------|-----|------------|
| KR - REACH CCA | MX | NZ | PH | TH-TECI | TW | VN (Draft) |
| No | Yes | Yes | Yes | No | Yes | No |

Sulfuric acid, copper(2+) salt (1:1) (7758-98-7)

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| US | CA | AU | CN | EU | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
| Yes | DSL | Yes | Yes | EIN | Yes | Yes | Yes | No |

| | | | | | | |
|----------------|-----|-----|-----|---------|-----|------------|
| KR - REACH CCA | MX | NZ | PH | TH-TECI | TW | VN (Draft) |
| No | Yes | Yes | Yes | No | Yes | No |

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings



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Health: 2 Fire: 0 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL), KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne - Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse..