AQUABOND Chemistry for Tomorrow SAFETY DATA SHEET

SBX™

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**SBX™**
Product code:	5346
Recommended use of the chemical and restrictions on use:	Blackening Solution for Iron and Steel for decorative and functional applications.
Chemical family:	Acid Mixture of inorganic chemicals.
Name, address and phone # of supplier:	Aqua Bond Inc., PO Box 63635, Woodbine Square Toronto, ON, M1V 5K2 (416) 754-7211
24 Hr. Emergency phone #	CANUTEC (613) 996-6666

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:
Acute Toxicity - Oral - Category 3
SKIN CORROSION/IRRITATION- CATEGORY 1B
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Skin Sensitization - Category 1A
Germ Cell Mutagenicity - Category 2
Reproductive Toxicity - Category 2
Specific Target Organ Toxicity - Single Exposure - Category 1 (Hematopoietic System, heart, kidneys, liver, nervous system, respiratory system)
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (Nervous system, hematopoietic system, kidneys, respiratory system)
Specific Target Organ Toxicity - Repeated Exposure - Category 2 (liver, stomach)
Hazardous to the Aquatic Environment - Acute - Category 3
Hazardous to the Aquatic Environment - Chronic - Category 2

Label elements:



Signal word: DANGER

Hazard statements:
H301 Toxic if swallowed
H314 Causes severe skin burns and eye damage.
H317 May cause allergic skin reaction.
H341 Suspected of causing genetic defects.
H361 Suspected of damaging fertility or the unborn child.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

	H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements:	P201 Obtain special instructions before use P202 Do not handle until all safety precautions have been read and understood P220 Keep away from clothing and other combustible material P260 Do not breathe dust/fume/gas/mist/vapours/spray P264 Wash thoroughly after handling P270 Do not eat, drink or smoke when using this product P272 Contaminated work clothing should not be allowed out of the workplace P280 Wear protective gloves/protective clothing/eye protection/face protection P301+P310 IF SWALLOWED: immediately call a Poison Centre or physician P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P370 In case of fire: use fire-extinguishing media appropriate for surrounding materials to extinguish. P391 Collect spillage. P501 Dispose of contents/container to an approved waste disposal plant.
Other hazards:	Keep out of reach of children.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Mixture

Ingredient name	**CAS Number**	**Concentration (%)**
Selenious Acid	7783-00-8	1-5
Sulphamic Acid	5329-14-6	1 - 10
Copper Salt	7758-99-8	1 - 10
Aqua Pura	7732-18-5	70-95

Concentrations are shown as ranges due to batch variation.

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion	Do not induce vomiting. Call (416) 813-5900 for emergency medical advice. If vomiting occurs, keep victim's head lowered (forward) to keep vomit from entering lungs. Call 911 for emergency medical transport if any symptoms.
Inhalation	Move victim to fresh air. Contact emergency medical services (911) if any difficulty in breathing occurs or if victim loses consciousness.
Skin contact	Remove contaminated clothing and shoes. Wash skin thoroughly with water. Get medical attention immediately.
Eye contact	Remove and discard contact lenses if worn and flush eyes with copious amounts of water for at least 20 minutes. Seek immediate medical attention when done rinsing eyes.

Most important symptoms and effects, both acute and delayed:

Harmful if inhaled. Material is extremely destructive to tissue of mucous membranes and upper respiratory tract. Harmful if swallowed. Causes burns with direct contact on skin. Harmful if absorbed through skin. Ingestion will result in metallic taste, garlic odour to breath, and nausea, vomiting, and

severe abdominal pains. Breathing mists can cause nose and throat irritation with coughing, wheezing, swelling of the throat, and difficulty breathing. Garlic odour to breath, headaches, dizziness, difficulty breathing. Chronic health effects; may damage nervous system, kidneys, and/or liver. Those with pre-existing dermatitis, other skin conditions and disorders of the target organs (eyes, skin, and respiratory system) or impaired kidney function may be more susceptible to the effects of the substance.

Indication of any immediate medical attention and special treatment needed:

This product contains Selenious Acid and is potentially fatal if ingested in small amounts. Twenty-four hour admission should be considered in asymptomatic or minimally symptomatic patients as delayed toxic effects including pulmonary edema and multi-organ failure may occur.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable	Dry chemical, foam, carbon dioxide, water fog.
Unsuitable	None known.
Special hazards arising from the substance:	May react with metals to release hydrogen gas, which can form explosive mixtures with air. May intensify fire; oxidizer. Store away from combustible material.
Hazardous thermal decomposition products:	May produce toxic selenious fumes. Hazardous decomposition products may be released. Thermal degradation may produce oxides of carbon, selenium and/or nitrogen, hydrocarbons and/or derivatives.
Special protective equipment / precautions for fire-fighters:	Not available.
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:	Wear appropriate protective equipment and clothing during clean-up. Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering.
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up:	Wear appropriate protective equipment and clothing during clean-up. Stop source of leak if possible. Absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbents, or recover using pumps. Scoop up used absorbent into drums or other appropriate container. Block any potential routes to water systems.
Special spill response procedures:	In case of transportation accident, contact CANUTEC (613) 996-6666.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Wear personal protective equipment to avoid direct contact with this chemical. Avoid breathing mist or spray. Avoid eye and skin contact. Only use where there is adequate ventilation. Avoid heating that will increase the amount of vapours. Do not expose to heat and flame. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.
Conditions for safe storage:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original acid-resistant container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be resealed and kept upright. Do not store in unlabeled containers.
Special Precautions:	Empty containers may retain hazardous product residues. Store away from combustible material.
Incompatible materials:	Cyanides, water-reactive substances, strong reducing agents, chlorinated cleaners or sanitizers, combustible organic materials, most metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits ppm (mg/m^3)

Ingredient	CAS No.	ACGIH			NIOSH		OSHA		
		TLV	STEL	ES-TWA	TWA	IDLH	PEL	STEL	IDLH
Selenious Acid	7783-00-8	0.2	N/A	0.2	0.2	1	0.2	N/A	N/A
Copper Salt	7758-99-8	N/A	N/A	1	1	100	1	N/A	N/A
Sulphamic Acid	5329-14-6	None Identified			None Identified		None Identified		

Engineering controls:	Use with adequate ventilation to keep worker exposure to airborne contaminants below any recommended or statutory limits. Ensure appropriate decontamination equipment is available (sink, safety shower, and eye-wash).
Individual protection measures:	Eyes/face: Chemical splash goggles and face shield. Skin: 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. Wear protective, chemical-resistant gloves such as neoprene when using or handling this product. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Respiratory: Wear appropriate respirator when ventilation is inadequate. Be sure to use a NIOSH approved respirator or equivalent. A chemical resistant apron and/or protective clothing are recommended when handling this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light Blue Solution
Odour:	Odourless
Odour threshold:	Not available.
pH range of 1% solution b.v.:	2.26 -2.76
Melting point:	Not available.
Freezing point:	0°C
Boiling point:	100°C
Flash point:	Not available.
Evaporation rate:	Similar to water.
Flammability:	Not available.
Upper and lower flammability limits:	Not available.
Vapour pressure:	Not available.
Vapour density:	Similar to water.
Relative density:	0.94-1.15
Solubility:	Miscible.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
VOC:	0

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Not reactive.
Chemical stability:	Stable at normal temperatures.
Possibility of hazardous reactions (Polymerization):	Will not occur.
Conditions to avoid:	Excessive heat, shock, and friction.
Incompatible materials:	Organic compounds and cyanides, water-reactive substances, strong reducing agents, and chlorinated cleaners or sanitizers.
Hazardous decomposition products:	Reaction with organics and strong reducing agents can produce volatile organoselenides and hydrogen selenide. Thermal decomposition may produce nitrogen, selenium, and copper oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

See section 4: most important symptoms and effects, both acute and delayed.

Component Analysis: LD50/LC50

Copper Salt Cas No. 7758-99-8 Oral LD50Rat 960 mg/kg

Selenious Acid Cas No. 7783-008 Oral LD50Rabbit 10 mg/kg, Dermal LD50 Rabbit 4 mg/kg

SECTION 12 ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Copper Salt CAS No. 7758-99-8

Fish: LC50 96 h Lepomis macrochirus 0.66 - 1.15 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 0.96 - 1.8 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.1478 - 0.165 mg/L [flow-through]; LC50 96 h

Oncorhynchus mykiss 0.09 - 0.19 mg/L [static]; LC50 96 h Pimephales promelas 0.6752 mg/L [static]
Invertebrate: EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [static] EPA

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	UN 3264
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, SULPHAMIC ACID)
Transport hazard class:	8
Packing group:	II
Environmental hazard:	Yes
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

Canada inventory (DSL): All components are listed.

SECTION 16: OTHER INFORMATION

Revision date: February 5, 2024
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Disclaimer

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