

Universal Fully Formulated Inhibitor Concentrate

SECTION 1. IDENTIFICATION

Product Identifier	Universal Fully Formulated Inhibitor Concentrate
Other Means of Identification	26-709FFR-1000, 85-709, 86-709-1000, 86-709SH, 86-709SH-1000, 86-709SHWB, 86-709SHWB-1K
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1655

SECTION 2. HAZARD IDENTIFICATION

Classification

Corrosive to metals - Category 1; Acute toxicity (Oral) - Category 3; Skin corrosion - Category 1A; Reproductive toxicity - Category 1B; Specific target organ toxicity (single exposure) - Category 3; Aquatic hazard (Acute) - Category 1

Label Elements



Signal Word:
Danger

Hazard Statement(s):

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original container.
P260	Do not breathe fume, mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection, face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P330 Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTRE or doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P390 Absorb spillage to prevent material damage.

Storage:

Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Sodium Salt of Boron Acid	CBI*	10-30	
SODIUM SALT OF OXIDE OF NITROGEN	CBI*	7-13	
SODIUM SALT OF OXIDE OF NITROGEN	CBI*	5-10	
Sodium Salt of Silicate	CBI*	1-5	
SODIUM SALT OF ARYLCARBONATE	CBI*	1-5	
Sodium hydroxide	1310-73-2	1-5	

Notes

The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing has stopped, trained personnel should begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Immediately call a Poison Centre or doctor.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. Call a Poison Centre or doctor if you feel unwell. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

Most Important Symptoms and Effects, Acute and Delayed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Immediate Medical Attention and Special Treatment

Target Organs

Eyes, lungs, respiratory system.

Special Instructions

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Does not burn.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.

See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for

waste disposal.

SECTION 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Sodium Salt of Boron Acid	Not established	Not established	Not established	Not established		
Sodium Salt of Silicate	Not established	Not established	Not established	Not established		
SODIUM SALT OF OXIDE OF NITROGEN	Not established	Not established	Not established	Not established		
SODIUM SALT OF OXIDE OF NITROGEN	Not established	Not established	Not established	Not established		
SODIUM SALT OF ARYLCARBONATE	Not established	Not established	Not established	Not established		
Sodium hydroxide	Not established	2 mg/m3	2 mg/m3	2 mg/m3		

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. For large scale use of this product: provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear liquid.
Odour	Not available
Odour Threshold	Not available
pH	11.8 - 12.8 (100% solution)
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.280 - 1.340 at 15 °C
Solubility	Not available in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	Not applicable
Other Physical Property 1	20.0 ml (1g SC in 100 mL of DI Water)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Acidic conditions (low pH). Alkaline conditions (high pH).

Incompatible Materials

Slightly reactive or incompatible with the following materials: organic acids (e.g. acetic acid), inorganic acids (e.g. hydrofluoric acid), oxidizing agents (e.g. peroxides), reducing agents (e.g. hydroquinone), strong bases (e.g. sodium hydroxide).

Corrosive to: aluminum alloys, copper alloys (e.g. brass and/or bronze).

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

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Skin contact; inhalation; eye contact.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Sodium Salt of Boron Acid	Not available	Not available	Not available
Sodium Salt of Silicate	Not available	1152-1349 mg/kg (rat)	> 4640 mg/kg (rabbit)
SODIUM SALT OF OXIDE OF NITROGEN	Not available	1267 mg/kg (rat)	Not available
SODIUM SALT OF OXIDE OF NITROGEN	5.5 mg/L (rat) (4-hour exposure)	85 mg/kg (rat)	Not available
SODIUM SALT OF ARYLCARBONATE	Not available	640 mg/kg (rat)	Not available
Sodium hydroxide	Not available	Not available	1350 mg/kg (rabbit)

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

Animal tests show skin corrosion. (Sodium hydroxide). (SODIUM SALT OF SILICATE). (SODIUM SALT OF ARYLCARBONATE) human experience and animal tests show moderate or severe irritation. (SODIUM SALT OF OXIDE OF NITROGEN)

Serious Eye Damage/Irritation

Human experience and animal tests show serious eye damage. (SODIUM SALT OF SILICATE). (Sodium hydroxide). (SODIUM SALT OF ARYLCARBONATE) human experience and animal tests show serious eye irritation. (SODIUM SALT OF OXIDE OF NITROGEN)

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Harmful based on human experience and animal tests. Severe nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

May be harmful based on human experience and animal tests. Symptoms may include redness, rash, swelling and itching.

Ingestion

Harmful based on human experience and animal tests. Severe irritation or burns to the mouth, throat and stomach. Permanent damage can result.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause Symptoms may include dry, red, cracked skin (dermatitis).

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Sodium Salt of Boron Acid	Not Listed	A4	Not Listed	Not Listed
Sodium Salt of Silicate	Not Listed	Not designated	Not Listed	Not Listed
SODIUM SALT OF OXIDE OF NITROGEN	Not Listed	Not designated	Not Listed	Not Listed
SODIUM SALT OF OXIDE OF NITROGEN	Not Listed	Not designated	Not Listed	Not Listed

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SODIUM SALT OF ARYLCARBONATE	Not Listed	Not designated	Not Listed	Not Listed
Sodium hydroxide	Not Listed	Not designated	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

May harm the unborn child. (Sodium Salt of Boron Acid)

Sexual Function and Fertility

May cause effects on sexual function and/or fertility. (Sodium Salt of Boron Acid)

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Sodium Salt of Boron Acid	Not available	Not available		
Sodium Salt of Silicate	210 mg/L (Zebra Fish; 96-hour)	Not available		
SODIUM SALT OF OXIDE OF NITROGEN	6650 mg/L (Western Mosquito Fish; 96-hour)	6000 mg/L (Daphnia magna (water flea); 24 hr)		
SODIUM SALT OF OXIDE OF NITROGEN	0.94-1.92 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)	12.5 mg/L (Daphnia magna (water flea); 48-hour)		
SODIUM SALT OF ARYLCARBONATE	Not available	Not available		
Sodium hydroxide	125 mg/L (Western Mosquito Fish; 96-hour)	40.38 mg/L (Daphnia magna (water flea); 48-hour)		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Sodium Salt of Boron Acid	Not available	Not available		
Sodium Salt of Silicate	Not available		Not available	
SODIUM SALT OF OXIDE OF NITROGEN	Not available		Not available	
SODIUM SALT OF OXIDE OF NITROGEN	0.54 mg/L (Oncorhynchus mykiss (rainbow trout))		Not available	
SODIUM SALT OF ARYLCARBONATE	Not available		Not available	

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Sodium hydroxide	Not available	Not available	
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Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (Sodium hydroxide)	8 (6.1)	II
US DOT	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (Sodium hydroxide)	8 (6.1)	II

Environmental Hazards Marine Pollutant (SODIUM SALT OF OXIDE OF NITROGEN)

Special Precautions Please note: In containers of 1 L (1Kg) capacity or less this product is classified as a "Limited Quantities" "Consumer Commodity" under TDG regulations.
In containers of 1 L (1Kg) this product is qualified as a "consumer commodity" ORM-D under DOT

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Proof of Dangerous Goods Classification

Date of Classification	December 12, 2016
Technical Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Classification	8 (6.1)
Classification Method	OECD 435

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

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All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65:

WARNING: Birth Defects and other Reproductive Harm - www.P65Warnings.ca.gov/product.

Custom Regulatory 1

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Compliance and Regulatory Department
Phone No.	905-878-5544
Date of Preparation	January 29, 2016
Date of Last Revision	December 12, 2016
Revision Indicators	SECTION 10. STABILITY AND REACTIVITY; Incompatible Materials. SECTION 2. HAZARD IDENTIFICATION; Classification. SECTION 14. TRANSPORT INFORMATION; Classification; Proof of Dangerous Goods Classification. SECTION 15. REGULATORY INFORMATION.
Additional Information	We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative. Please send us your request by visiting our website at www.recochem.com .
	Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.
Disclaimer	Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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