

SAFETY DATA SHEET



Product Name: ACCO Flux-L

Release Date: 2/19/2019

Product Number: 102-63275

Section 1. Identification

Product Identifier:	ACCO Flux-L
Other means of identification:	Not available
CAS Number:	7646-85-7, 12125-02-9, 10361-37-2
Recommended Use:	Water treatment
Recommended Restrictions:	None known.
Supplier/Distributor Information:	ACCO Unlimited Corporation 5105 NW Johnston Dr. Johnston, IA 50131 (800) 548-2226

EMERGENCY PHONE NUMBER: 800-424-9300 CHEMTREC

Section 2. Hazard(s) Identification

OSHA/HCS status.....This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical hazards.....Not classified.

Health hazardsAcute toxicity (oral) - Category 4
Skin corrosion/irritation - Category 1B
Specific target organ toxicity (single exposure) - Category 3

Environmental hazards.....Hazardous to the aquatic environment - Acute Hazard - Category 1
Hazardous to the aquatic environment - Chronic Hazard - Category 1

GHS label elements:
Hazard pictograms



Signal word.....Danger

Hazard statements.....Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects

Precautionary statements:

Prevention.....Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response.....IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
 Rinse mouth. Do NOT induce vomiting.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
 Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see label). Rinse mouth. Wash contaminated clothing before reuse.
 Collect spillage.

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

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

Other Hazards.....No additional information available.
 Unknown acute toxicity (GH\$-CA): No data available.

Section 3. Composition/information on ingredients

Mixtures .

Name	Product Name	%	GHS Classification	Hazard Classification
Water	(CAS No) 7732-18-5	40-50	Not classified	Not classified
Zinc chloride	(CAS No) 7646-85-7	12 - 40	Acute Tox. 4 (Oral), H302 Skin Corr. 18, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Acute Tox. 4 (Oral), H302 Skin Corr. 18, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Ammonium chloride	(CAS No) 12125-02-9	20 - 30	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Comb. Dust	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Comb. Dust
Barium chloride (BaCl ₂)	(CAS No) 10361-37-2	0.5 - 2.5	Acute Tox. 3 (Oral), H301 Eye Irrit. 2A, H319	Acute Tox. 3 (Oral), H301 Eye Irrit. 2A, H319

Section 4. First aid measures

Description of first aid measures

First-aid measures after inhalation: If inhaled, remove to fresh air immediately. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse and discard shoes.

First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.

First-aid measures after ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Call a physician immediately. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory irritation.

Symptoms/injuries after skin contact: Corrosive or irritating to the skin.

Symptoms/injuries after eye contact: Causes eye damage.

Symptoms/injuries after ingestion: Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed: No additional information available

Section 5. Fire-fighting measures

Suitable extinguishing media: As appropriate for combustibles in area.

Unsuitable extinguishing media: None.

Special hazards arising from the substance or mixture

Fire hazard: Will not burn.

Explosion hazard: None known.

Advice for firefighters

Protection during firefighting: Firefighters should wear full protective gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No additional information available.

For emergency responders: No additional information available.

Environmental precautions: Avoid release to the environment.

Methods and materials for containment and cleaning up

For containment: Isolate area. Keep unnecessary personnel away. Stop the flow of material, if this is without risk.

Methods for cleaning up: Confine spill and soak up with absorbent. Place in an approved container and dispose in accordance with local, state and federal regulations.

Section 7. Handling and storage

Precautions for safe handling: Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store in a tightly closed container in a dry place. Do not store with cyanides or sulfides.

Section 8. Exposure controls/personal protection

Control Parameters - Ammonium chloride

USA-ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (fume)
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USA-ACGIH	ACGIH STEL (mg/m ³)	20 mg/m ³ (fume)
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Control Parameters - Zinc chloride

USA-ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (fume)
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USA-ACGIH	ACGIH STEL (mg/m ³)	2 mg/m ³ (fume)
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USA-OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³ (fume)
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Exposure controls

Appropriate engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Hand protection: Use neoprene or PVC rubber gloves, apron, boots, long sleeve shirt and pants. If considerable contact is likely, wear impervious neoprene or PVC rubber clothing or acid suit.

Eye protection: Use chemical splash goggles.

Skin and body protection: Wear suitable working clothes.

Respiratory protection: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Section 9. Physical and chemical properties

Physical state	Liquid
Colour	Clear
Odour	odorless.
Odour threshold	No data available
pH	2.5-4
Relative evaporation rate (butylacetate=1)	< 1
Melting point	No data available
Freezing point	No data available
Boiling point	> 100 °C (>212 °F)
Flash point	No data available
Self ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	24 mm Hg at 20 °c (68 °F)/49 mm Hg at 37.7 °c (100 °F) No
Relative vapour density at 20 °C	data available
Specific gravity	1.2-1.5
Solubility	Completa
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

Section 10. Stability and reactivity

Reactivity: No additional information available.

Chemical stability: The product is stable at normal handling and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to avoid: None.

Incompatible materials: Incompatible with cyanides and sulfides (may release toxic gases).

Hazardous decomposition products: At high temperatures, {+/-343 degrees C; +/-650 degrees F} as in intended use, ammonium chloride fumes, zinc oxide fumes, zinc chloride fumes, and ammonia and hydrogen chloride gases may be released.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity (oral): Oral: Harmful if swallowed.

Acute toxicity (dermal): Not classified.

Acute toxicity (inhalation): Not classified.

ATE CA (oral): 500 mg/kg body weight

Water: LD50 oral rat >90 ml/kg

Ammonium Chloride: LD50 oral rat 1650 mg/kg

Zinc Chloride: LD50 oral rat 1100 mg/kg

Barium Chloride: LD50 oral rat 118 mg/kg

Skin corrosion/irritation: Causes severe skin burns and eye damage. pH 2.5-4

Serious eye damage/irritation: Eye damage, category 1, implicit pH 2.5-4

Respiratory or skin sensitization: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified. Tests in bacterial or mammalian cell cultures demonstrate mutagenic activity. Tests in some animals indicate that the compound may have embryotoxic activity. Specific target organ toxicity- single exposure: May cause respiratory irritation. The product is corrosive to the eyes and corrosive or irritating to skin. Toxic effects described in animals from short exposures include corrosion of mucosa! surfaces, liver effects, and kidney effects. Specific target organ toxicity - repeated exposure: Not classified.

Human health effects of overexposure by inhalation, ingestion, or skin or eye contact may initially include: eye irritation with discomfort, tearing, or blurring of vision: skin irritation with discomfort or rash; or irritation of the upper respiratory passages. Higher exposures may lead to these effects: skin and eye burns or ulceration: temporary lung Irritation effects with cough, discomfort, difficulty breathing, or shortness of breath: possibly modest initial symptoms, followed in hours by severe shortness of breath, requiring prompt medical attention: fatality from gross overexposure by fume inhalation or by significant ingestion. There are inconclusive or unverified reports of human sensitization. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

Human health effects of acute over-exposure to barium chloride may include abdominal pain, violent purging with watery and bloody stools, vomiting, muscle twitching, and confusion, followed by reversible muscle paralysis, including paralysis of the respiratory muscles which may be fatal. Chronic overexposure may lead to varying degrees of paralysis of the extremities. Hypertension may also be present. Symptoms of over-exposure will disappear with time as the body eliminates the barium, primarily in the feces. Hypokalemia is often observed; potassium should be administered; large doses may be required.

When the Zaclon® products are heated to high temperatures as those encountered in the galvanizing process, irritating zinc chloride fumes and gaseous hydrogen chloride may be released. Severe exposures may cause pulmonary edema. Heating may also release zinc oxide fumes which may cause metal fume fever.

Aspiration hazard: Not classified.

Section 12. Ecological information

Toxicity

Aquatic acute: Very toxic to aquatic life.

Aquatic chronic: Very toxic to aquatic life with long lasting effects.

Ammonium Chloride

LC50 fish 1 209 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

Zinc Chloride

BCF fish 1 16000

Barium Chloride

EC50 Daphnia 1 14.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Persistence and Degradability: No additional information available.

Bioaccumulative potential: Zinc Chloride BCF fish 1 16000

Mobility in Soil: No additional information available.

Other adverse effects: Ozone - Not classified.

Section 13. Disposal considerations

Disposal methods

Product/Packaging disposal recommendations: Dispose of contents/container in accordance with local/regional/national regulations.

Section 14. Transport information

Basic shipping description

In accordance with TDG	
UN-No. (TDG)	UN3264
Packing group	III - Minor Danger
TDG Primary Hazard Classes	8 - Class 8 - Corrosives
Transport document description	UN3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains Zinc Chloride and Zinc Ammonium Chloride), 8, III
Proper Shipping Name (TDG)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Contains Zinc Chloride and Zinc Ammonium Chloride
Hazard labels (TDG)	8 - Corrosive substances



TDG Special Provisions	<p>16 - 1) The technical name of the most dangerous substance related to the primary class must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(i)(A) of Part 3, Documentation. The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4, Dangerous Goods Safety Marks.</p> <p>2) subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical: a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the 'Food and Drugs Act'.</p>
Explosive Limit and Limited Quantity Index	SL
Excepted quantities (TDG)	E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	SL
Marine pollutant	Yes (IMDG only)



Transport Information / DOT

DOT NA no.	UN3264
UN-No.(DOT)	3264
Packing group (DOT)	III - Minor Danger
DOT Symbols	G - Identifies PSN requiring a technical name
Transport document description	UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (Contains Zinc Chloride and Zinc Ammonium Chloride), 8, III
Proper Shipping Name (DOT)	Corrosive liquid, acidic, inorganic, n.o.s. (Contains Zinc Chloride and Zinc Ammonium Chloride)
Contains Statement Field Selection (DOT)	
Class (DOT)	8 - Class 8 - Corrosive material 49 CFR 173.136
Division (DOT)	8
Hazard labels (DOT)	8 - Corrosive
Dangerous for the environment	Yes

Marine pollutant

Yes



DOT Special Provisions (49CFR 172.102)

IB3-Authorized IBCs: Metal (31A, 318 and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IPB in Table 2 for UN2672).

T7 • 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 11 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49CFR 173.xxx) 154

DOT Packaging Non Bulk (49CFR 173.xxx) 203

DOT Packaging Bulk (49CFR 173.xxx) 241

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) 60L

DOT Vessel Stowage Location A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other 40 - Stow "clear of living quarters"

Other information No supplementary information available.

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IMPG

UN-No. (IMDG) 3264

Proper Shipping Name (IMDG) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Transport document description (IMDG) UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, III, MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS

Class (IMDG) a - Corrosive substances

Packing group (IMDG) Iii - substances presenting low danger

IATA

UN-No. (IATA) 3264

Proper Shipping Name (IATA) Corrosive liquid, acidic, inorganic, n.o.s.

Transport document description (IATA) UN 3264 Corrosive liquid, acidic, inorganic, n.o.s., 6, III, ENVIRONMENTALLY HAZARDOUS

Class (IATA) 8 - Corrosives

Packing group (IATA) Iii - Minor Danger

Section 15. Regulatory information

US Federal Regulations

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ammonium chloride (12125-02-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zinc chloride (7646-85-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Barium chloride (10361-37-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.3. US State regulations

Ammonium chloride (12125-02-9)

- U.S. - Massachusetts - Right To Know List
- U.S. - Minnesota - Hazardous Substance List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

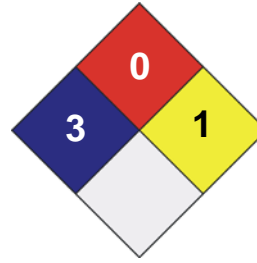
Zinc chloride (7646-85-7)

- U.S. - Massachusetts - Right To Know List
- U.S. - Minnesota - Hazardous Substance List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

Section 16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 3
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X



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