



SAFETY DATA SHEET

COPPER ALKALINE HIGH SPEED - 2904

1. Identification

Product identifier

Product name COPPER ALKALINE HIGH SPEED

Product number 2904

Recommended use of the chemical and restrictions on use

Application Industrial Use

Details of the supplier of the safety data sheet

Supplier Canadian Metal – Ad Corporation 42
 Regan Road, Unit # 17
 Brampton, ON. L7A 1B4
 Canada
 Tel.: 905-459-6457
 E-Mail: info@metalad.ca

Emergency telephone number

Emergency spill response telephone number Toll Free: 1-800-899-6926

2. Hazard(s) identification

Classification of the substance or mixture Physical

hazards Not Classified

Health hazards Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elementsPictogramSignal word

Danger

Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

COPPER ALKALINE HIGH SPEED

Precautionary statements

P260 Do not breathe vapor/ spray.
 P264 Wash contaminated skin thoroughly after handling. P270
 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P284 [In case of inadequate ventilation] wear respiratory protection.
 P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P501 Dispose of contents/ container in accordance with national regulations.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P301+P310 If swallowed: Immediately call a poison center/ doctor.
 P302+P352 If on skin: Wash with plenty of water.

Contains

COPPER SULPHATE, ETHYLENEDIAMINE, FORMIC ACID ...%

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

<div>COPPER SULPHATE 15-20%</div> <div>CAS number: 7758-98-7 M</div> <div>factor (Acute) = 10 M factor (Chronic) = 10</div>
<div>Classification</div> <div>Acute Tox. 4 - H302</div> <div>Skin Irrit. 2 - H315</div> <div>Eye Irrit. 2 - H319</div> <div>Aquatic Acute 1 - H400</div> <div>Aquatic Chronic 1 - H410</div>
<div>ETHYLENEDIAMINE 15-20%</div> <div>CAS number: 107-15-3</div>
<div>Classification</div> <div>Flam.Liq. 3 - H226</div> <div>Acute Tox. 4 - H302</div> <div>Acute Tox. 4 - H312</div> <div>Skin Corr. 1B - H314</div> <div>Eye Dam. 1 - H318</div> <div>Resp. Sens. 1 - H334</div> <div>Skin Sens. 1 - H317</div>
<div>FORMIC ACID ...% 1-5%</div> <div>CAS number: 64-18-6</div>
<div>Classification</div> <div>Skin Corr. 1A - H314</div> <div>Eye Dam. 1 - H318</div>

The full text for all hazard statements is displayed in Section 16.

COPPER ALKALINE HIGH SPEED

4. First-aid measures

Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Get medical attention immediately. Do not induce vomiting.
Skin Contact	Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes and get medical attention.
Eye contact	Remove affected person from source of contamination. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	May cause chemical burns in mouth and throat. May cause stomach pain or vomiting. Skin contact
contact	May cause serious chemical burns to the skin.
Eye contact	Causes severe burns. May cause serious eye damage.

Indication of immediate medical attention and special treatment needed Notes for the doctor No specific recommendations

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Corrosive gases or vapors.

Advice for firefighters

Protective actions during firefighting	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
Special protective equipment for firefighters	Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapors.
Provide adequate general and local exhaust ventilation.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up	Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.
Reference to other sections	Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

COPPER ALKALINE HIGH SPEED

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists.
Provide adequate general and local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight.

Storage class Corrosive storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Control parameters Occupational exposure limits ETHYLENEDIAMINE

Long-term exposure limit (8-hour TWA): OSHA 10 ppm 25 mg/m³ FORMIC

ACID ...%

Long-term exposure limit (8-hour TWA): ACGIH 5 ppm 9.4 mg/m³ Long-

term exposure limit (8-hour TWA): OSHA 5 ppm 9 mg/m³ Short-term

exposure limit (15-minute): ACGIH 10 ppm 19 mg/m³

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection

Tight-fitting safety glasses.

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Nitrile rubber.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

COPPER ALKALINE HIGH SPEED

Appearance	Liquid.
Color	Purple.
Odor	No characteristic odor.
pH	pH (concentrated solution): 8.9-9.0
Initial boiling point and range	>100°C/212°F @
Relative density	1.137-1.147
Other information	Not available.
Volatile organic compound	This product contains a maximum VOC content of EDA 178 g/l. This product contains a maximum VOC content of FORMIC ACID 202 g/l.

10. Stability and reactivity

Reactivity	Not reactive under normal conditions.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
Conditions to avoid	Avoid excessive heat for prolonged periods of time.
Materials to avoid	None known.
Hazardous decomposition products	None at ambient temperatures.

11. Toxicological information

Information on toxicological effects Acute

toxicity - oral

ATE oral (mg/kg)	1,492.98
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Acute toxicity - dermal

ATE dermal (mg/kg)	7,010.83
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Inhalation	Vapors irritate the respiratory system.
Ingestion	Causes severe burns. May cause chemical burns in mouth, esophagus and stomach. Skin
Contact	May cause serious chemical burns to the skin.
Eye contact	Causes serious eye damage. Immediate first aid is imperative.
Acute and chronic health hazards	May cause burns in mucous membranes, throat, esophagus and stomach.
Route of entry	Ingestion Inhalation Skin and/or eyecontact

Toxicological information on ingredients.

COPPER SULPHATE

Acute toxicity - oral

COPPER ALKALINE HIGH SPEED

Acute toxicity oral (LD₅₀
mg/kg) 482.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀
mg/kg) 2,000.0

Species Rat

ATE dermal (mg/kg) 2,000.0

ETHYLENEDIAMINEAcute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 1,200.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀
mg/kg) 560.0

Species Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ dust/mist mg/l) 14.7

Species Rat

ATE inhalation (vapours
mg/l) 11.0

FORMIC ACID ...%Acute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 730.0

Species Rat

ATE oral (mg/kg) 730.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ vapours mg/l) 7.4

Species Rat

ATE inhalation (vapours mg/l) 7.4

COPPER ALKALINE HIGH SPEED

12. Ecological Information

Ecotoxicity The product contains a substance which is very toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Toxicity No data available.

Ecological information on ingredients.COPPER SULPHATEAcute aquatic toxicity

LE(C)₅₀ 0.01 < L(E)C₅₀ ≤ 0.1

M factor (Acute) 10

Acute toxicity - fish LC₅₀, 96 hours: <1(copper ions) mg/l, Fish
EC₅₀, 48 hour: 0.024 mg/l, Daphnia magna

Chronic aquatic toxicity

M factor (Chronic) 10

ETHYLENEDIAMINE

Acute toxicity - fish , 96 hour: 115.7 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates , 48 hour: 3 mg/l, Daphnia magna

Acute toxicity - aquatic plants , 96 hour: 151 mg/l, Pseudokirchneriella subcapitata

FORMIC ACID ...%

Acute toxicity - fish LC₅₀, 96 hours: 130 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 365 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 1240 mg/l, Selenastrum capricornutum

Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.ETHYLENEDIAMINE

Biodegradation - 94: ~ 28 days

Bioaccumulative potential

Bio-Accumulative Potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil

Mobility The product is soluble in water.

Ecological information on ingredients.

COPPER ALKALINE HIGH SPEED

FORMIC ACID ...%

Surface tension 71.5 mN/m @ 20°C/°F

Other adverse effects

Other adverse effects Not determined.

13. Disposal considerationsWaste treatment methods

General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport informationUN Number

UN No. (TDG) 3266

UN No. (IMDG) 3266

UN No. (ICAO) 3266

UN No. (DOT) 3266

UN proper shipping name

Proper shipping name (TDG) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ETHYLENEDIAMINE, COPPER SULPHATE)

Proper shipping name (IMDG) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ETHYLENEDIAMINE, COPPER SULPHATE)

Proper shipping name (ICAO) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ETHYLENEDIAMINE, COPPER SULPHATE)

Proper shipping name (DOT) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ETHYLENEDIAMINE, COPPER SULPHATE)

Transport hazard class(es)

TDG class 8

TDG label(s) 8

IMDG Class 8

ICAO class/division 8

Transport labelsPacking group

TDG Packing Group II

IMDG packing group II

COPPER ALKALINE HIGH SPEED

ICAO packing group II

DOT packing group II

Environmental hazards Environmentally

Hazardous Substance

Special precautions for user

EmS F-A, S-B

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

Not applicable.

15. Regulatory informationUS Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities Ethylenediamine
10,000 lbs

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA) Copper

Sulphate

Final CERCLA RQ: 10 lbs

Ethylenediamine

Final CERCLA RQ: 5,000 lbs

Formic Acid

Final CERCLA RQ: 5,000 lbs

SARA Extremely Hazardous Substances EPCRA Reportable Quantities Ethylenediamine

EPCRA RQ: 5,000 lbs

SARA 313 Emission Reporting

Copper Sulphate

Formic Acid

CAA Accidental Release Prevention

Ethylenediamine

Threshold Quantity: 20,000 lbs

SARA (311/312) Hazard Categories Acute

Chronic

OSHA Highly Hazardous Chemicals

Exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins Exempt.

California Directors List of Hazardous Substances Copper

Sulphate

Ethylenediamine

Formic Acid

COPPER ALKALINE HIGH SPEED

Inventories

US - TSCA

All ingredients are present.

16. Other information

Classification abbreviations
and acronyms

Acute Tox. = Acute toxicity Carc. =
Carcinogenicity
Eye Dam. = Serious eye damage Eye
Irrit. = Eye irritation
Flam. Liq. = Flammable liquid
Muta. = Germ cell mutagenicity
Resp. Sens. = Respiratory sensitisation Skin
Corr. = Skin corrosion
Skin Irrit. = Skin irritation
Skin Sens. = Skin sensitisation
STOT RE = Specific target organ toxicity-repeated exposure STOT SE =
Specific target organ toxicity-single exposure

Revision date

12/19/2017

Revision

4

Hazard statements in full

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage. H315
Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H400 Very
toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

NFPA - instability hazard

Normally stable. (0)

NFPA - health hazard

Extremely hazardous, serious injury. (3)

NFPA - flammability hazard

Will not burn. (0)

The Information in this data sheet is believed to be correct but neither we nor our employees or agents give any warranty or make any representation to the accuracy thereof and accept no liability for any loss, injury or damage which may result in its use. The sole purpose of this data sheet is to provide guidance on the safe handling and use of the products to which it relates. It does not form part of any product specification nor part of any contract. It is not practical for the guidance and information in this data sheet to cover every conceivable application of a product and as we may not be aware of the use to which the products covered by this data sheet are to be put it remains the responsibility of the user to conduct its own tests and to satisfy itself as to the suitability of the product.