

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

OSTREM CHEMICAL CO. LTD.
2310 - 80 AVENUE
EDMONTON AB T6P 1N2

Phone: 780-440-1911 or 780-446-0177
In Case of Emergency Only:
phone CANUTEC at (613) 996-6666

Product name: COIL CLEANING ACID

Code: I312

Other name:

Distributed by:

Product use: acid descaler

Date completed: April 01, 2014

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredient | %W/W | CAS number |
|-----------------------------------|--------|------------|
| muriatic acid (hydrochloric acid) | 60-100 | 7647-01-0 |

3. HAZARDS IDENTIFICATION

Corrosive liquid. Causes burns. Harmful if swallowed.
Do not mix with bleach; poisonous chlorine gas will be liberated.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Induce vomiting only on the direct advice of a poison control centre. Get medical attention.

Eye contact: Flush with plenty of water for at least 15 minutes. Get medical attention.

Skin contact: Remove contaminated clothing and flush with plenty of water.

5. FIRE - FIGHTING MEASURES

Flash point (test method): Not applicable

Flammable limits (%): Non-flammable

Lower: Not applicable

Upper: Not applicable

Fire extinguishing substances: Use extinguishing media appropriate for surrounding fire.

Autoignition temperatures: Not applicable

Hazardous combustion products: Hydrogen and chlorine gas formed at temperatures over 1500C.

Explosion data:

Sensitivity to mechanical impact: Not applicable

Sensitivity to static discharge: Not applicable

Special firefighting procedures: As for surrounding fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear appropriate protective equipment.

Environmental precautions: Prevent from entering sewers, waterways or low areas.

Methods for cleaning up: Isolate hazard area and restrict access. Small spills: soak up with inert absorbent material and scoop into containers. Large spills: prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

7. HANDLING AND STORAGE

Handling: Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

COIL CLEANING ACID

Storage: Keep out of reach of children. Keep container tightly closed. Store in a cool, dry area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Provide exhaust ventilation to keep airborne levels below recommended exposure limits.

Respiratory protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator

Eye protection: Chemical goggles. Wear a face shield if splashing hazards exists.

Other protection: Wear protective clothing as necessary to prevent skin contact.

Exposure limits:

| INGREDIENT | ACGIH | OSHA | Other |
|-----------------------------------|------------|------|-------|
| muriatic acid (hydrochloric acid) | 5ppm PEL-C | | |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|---|
| Physical state: Liquid | Solubility in water: Complete |
| Boiling point: 90.5C | Vapour pressure: 100mm Hg at 20C |
| Vapour density: 1.268 | Evaporation rate: <1 |
| Freezing point: -51C | Odour threshold: 1-5ppm |
| Sp. Gravity: 1.12 | pH: <1 |
| Appearance & odour: | colourless or slightly yellow, fuming liquid with a pungent odour |

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions of instability: Not available

Incompatibility: Incompatible with strong bases, metals, phosphines, acetylides, borides, carbides, silicides, vinyl acetate, formaldehyde, hypochlorites,

Conditions of reactivity: Not available

Hazardous decomposition products: Contact with hypochlorites (bleach) liberates chlorine gas. May react violently with incompatible substances.

11. TOXICOLOGICAL PROPERTIES

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation: Irritating to respiratory system.

Ingestion: Harmful if swallowed. Causes burns to mouth, throat and stomach.

Eye contact: Corrosive to eyes. Causes severe burns.

Skin contact: Causes burns.

Skin absorption: Not available

POTENTIAL CHRONIC HEALTH EFFECTS:

Inhalation: Repeat or prolonged exposure may cause damage to lungs.

Ingestion: Not available

Eye contact: Not available

Skin contact: Not available

Skin absorption: Not available

| | |
|--|-------------------------------|
| Irritancy of product: | See WHMIS criteria |
| Sensitization of product: | Not available |
| Carcinogenicity: IARC (1, 2A or 2B) | No known significant effects. |
| ACGIH: (A1, A2 or A3) | No known significant effects. |
| Reproductive toxicity: | No known significant effects. |
| Teratogenicity: | No known significant effects. |
| Mutagenicity: | No known significant effects. |

Synergistic product: Not available

HAZARDOUS INGREDIENTS
muriatic acid (hydrochloric acid)

CAS NO.
7647-01-0

TOXICITY DATA
LC50 (inhalation) mouse: 757ppm/4H
LD50 (oral) rabbit:900mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicological information: Not available

Other information:

13. DISPOSAL CONSIDERATIONS

Waste disposal: Disposal of all waste must be done according to local, provincial and federal regulations.

14. TRANSPORT INFORMATION

TDG classification: HYDROCHLORIC ACID, Class 8, UN 1789, PG II

15. REGULATORY INFORMATION

WHMIS: E Corrosive Material
D1A Very Toxic Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. PREPARATION INFORMATION

Prepared by: Technical Services Department, Ostrem Chemical Co. Ltd., Ph: (780) 440-1911