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PRODUCT: CR MXF30 MSDS

1. Product and Company Identification

Commercial name of Product: **CR MXF30**

UN Number: 1779 C.A.S. number: Formic acid solution

Manufacturer:

Chemicals & Research (PTY) LTD,
12 Regents Avenue,
Anzac,
BRAKPAN

Emergency telephone numbers: 011-740-1016

2. Composition/Information on ingredients

Substance/preparation: Preparation

Information on hazardous ingredients

Chemical name	CAS No.	%	Symbol	R-Phrases
Formic acid	64-18-6	10 - 50	200-579-1	C; R35

Occupational exposure limits, if available, are listed in section 8.

3. Hazards identification

Physical/chemical hazards: Non-flammable.

Human health hazards: Harmful by inhalation, in contact with the skin and if ingested.
Harmful to the eyes.

4. First aid measures

Effects and symptoms

Inhalation: Slightly hazardous in case of inhalation (lung irritant, lung sensitizer).

Ingestion: Very hazardous in case of ingestion.

Skin contact: Sensitization of the product: No known data.

Immediately flush skin with plenty of water for about 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before re-use. Thoroughly clean shoes before re-use.

Eye contact: Very hazardous in case of eye contact (corrosive).

Aggravating conditions: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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First aid measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

5. Fire fighting measures

Suitable extinguishing media:

Small fire: Use DRY chemical powder
Large fire: Use water spray, fog or foam. Do not use water jet.

Special fire-fighting procedures:

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Hazardous thermal decomposition products

these products are carbon oxides (CO, CO₂).

Protection of fire-fighters:

Be sure to use an approved/certified respirator or equivalent.

6. Accidental release measures

Personal Precautions:

Splash goggles, over-all, vapor respirator, boots and gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Environmental precautions and clean-up methods

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. **Neutralize the residue with a dilute solution of sodium carbonate.**

7. Handling and storage

Handling:

Keep locked up. Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as acids, alkalis.

Storage:

Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Suitable packaging materials:

Use original container.

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8. Explosion controls/Personal protection

Engineering controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures:

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Occupational exposure limits:

Hazardous ingredients	TLV/PEL
Formic acid	ACGIH TLV (United States, 2000). STEL: 19 mg/m ³ 15 minute(s). STEL: 10 ppm 15 minute(s). TWA: 9.4 mg/m ³ 8 hour(s). TWA: 5 ppm 8 hour(s). NIOSH REL (United States, 2000). TWA: 9 mg/m ³ 10 hour(s). TWA: 5 ppm 10 hour(s). OSHA Final Rule (United States, 1989). TWA: 9 mg/m ³ 8 hour(s). TWA: 5 ppm 8 hour(s).

9. Physical and Chemical properties

Physical state and appearance:

Liquid.

Colour:

Clear. Colourless. (Light.)

Odour threshold:

Pungent. (Strong.)

Boiling point:

101°C (213.8°F)

Melting point:

8°C (46.4°F)

Density:

1.19 g/cm³ (25°C / 77°F)

Vapour density:

The highest known value is 1.6 (Air = 1) (Formic acid). Weighted average: 1.51 (Air = 1)

Vapour pressure:

The highest known value is 4.5 to 5.3 kPa (33.6 to 40 mmHg) (at 20°C) (Formic acid). Weighted average: 4.51kPa (33.83 mmHg) (at 20°C)

Evaporation rate:

The highest known value is 1.14 to 2.1 (Formic acid). Weighted average: 1.43 (compared to n-butyl acetate = 1)

Solubility:

Easily soluble in cold water, hot water, methanol, diethyl ether, acetone.
Very slightly soluble in n-octanol.

Octanol/water partition coefficient:

The product is more soluble in water.

pH:

2.2 (acidic).

Flashpoint:

Open cup: 71°C (159.8°F).

Flammability:

Flammable in presence of open flames, sparks and static discharge, of heat.

Auto ignition point:

The lowest known value is 539°C (1002.2°F) (Formic acid).

Explosion properties:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available

Lower explosion limit:

The greatest known range is LOWER: 18.6% UPPER: 57% (Formic acid)

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10 Stability and reactivity

Stability:

Product is stable.

Hazardous reactions:

Reactive with acids, alkalis.

Hazardous decomposition products:

These products are carbon oxides (CO, CO₂).

11. Toxicological information

Acute data [LD50, LC50]

Acute oral toxicity (LD50): 1294 mg/kg [Rat]. Acute toxicity of the dust (LC50): 8 mg/l 4 hours (rat) (Calculated value for the mixture).

Local effects:

Skin irritation:

Extremely hazardous in case of skin contact (corrosive).

Eye irritation:

Hazardous in case of eye contact (corrosive). Slightly hazardous in case of eye contact (irritant).

Sensitization:

Slightly hazardous in case of inhalation (lung sensitizer).

Chronic toxicity:

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Specific effects:

Carcinogenic effects:

Classified None., None. by NIOSH, None. [Formic acid].

Mutagenic effects:

Classified POSSIBLE for human [Formic acid].

Reproduction effects:

Not available.

12. Ecological information

Ecotoxicity:

No known data

13. Disposal considerations

Disposal considerations

DO NOT RE-USE CONTAINERS. Puncture all plastic containers. Flatten all metal containers. Shred all polywoven bags.

Methods of disposal

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste classification

Not applicable

European Waste Catalogue (EWC)

No known data

Hazardous waste

The classification of the product may meet the criteria for a hazardous waste

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14. Transport information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
ADR/RID Class Land - Road/Railway	1779	Formic acid	8	III		-
ADN Class Inland waterways	1779	Formic acid	8	III		-
IMDG Class Sea	1779	Formic acid	8	III		-
IATA-DGR Class Air	1779	Formic acid	8			-

15. Regulatory information

Hazard symbols:



Corrosive

Risk phrases:

R22- Harmful if swallowed.
R34- Causes burns.

Safety phrases:

S1/2- Keep locked up and out of the reach of children.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

Child protection:

Prevent children access to this product.

Contains:

Formic Acid

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16. Other information

The information above is believed to be accurate and represents the best information currently available to us. However, Chemicals and Research makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

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