



C R SCIENCE DEVELOPMENT CO., LTD.

1A-4-505 RUANJIANYUAN ROAD, HIGH-TECH INDUSTRIAL PARK, DALIAN,
LIAONING, CHINA
TAX ID: 91210204744382056M Tel: +86-411-39034986 Zip Code : 116021

Chemical Safety Data Sheet

Section 1 IDENTIFICATION

GHS Product identifier: Formic acid.

Other means of identification: Methanoic acid.

Recommended use of the chemical and restrictions on use: This material can be used in pesticide, leather, dye, medicine, rubber industry, etc.

Supplier's details: /

Emergency phone number: /

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Flammable liquids Category 3

Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Specific target organ toxicity, single exposure Category 1 (inhalation, blood, kidneys, respiratory system)

Specific target organ toxicity, repeated exposure Category 1 (inhalation, upper respiratory tract)

Hazardous to the aquatic environment, acute hazard Category 3

GHS Label elements, including precautionary statements:



Signal word: Danger

Hazard statement(s): Flammable liquid and vapor. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Causes damage to organs (inhalation, blood, kidneys, respiratory system). Causes damage to organs through prolonged or repeated exposure (inhalation, upper respiratory tract). Harmful to aquatic life.

Precautionary statement(s):

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response:

In case of fire: Use water spray, foam or chemical powder to extinguish. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If on skin (or



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hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Specific treatment (see under for further information). 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. If exposed or concerned: Call a poison center/doctor. Specific treatment (see under for further information). Get medical advice/attention if you feel unwell.

Storage:

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal:

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

Other hazards which do not result in classification: /

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Formic acid	64-18-6	85.4%
Water	7732-18-5	14.5%

Section 4 FIRST AID MEASURES

Description of necessary first aid measures

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If Ingestion: Rinse mouth with water. Do not induce vomit. Consult a physician.

Most important symptoms/effects, acute and delayed: /

Indication of immediate medical attention and special treatment needed, if necessary: /

Section 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Use foam, chemical powder or water spray.

Special hazards arising from the chemical: Liquid and vapour are flammable. May explode and burn in high temperature and fire and release toxic fumes.

Special protective actions for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers. In case of fire in the surroundings, use appropriate extinguishing media.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Contain spillage and collect with



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pump and place in a clean container for disposal according to local regulations.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: Wear protective gloves/eye protection/face protection/protective clothing. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from flammable materials, acids, alkalis and oxidizers.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Source	Material name	TWA	STEL
China Occupational Exposure Limits for Hazardous Agents in the Workplace	Formic acid	10 (mg/m ³)	20 (mg/m ³)

Appropriate engineering controls: Local exhaust ventilation or a process enclosure ventilation system may be required.

Individual protection measures

Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber. Impervious clothing,

Respiratory protection: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES



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Appearance (physical state, colour etc)	Colorless transparent liquid.
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	/
Initial boiling point and boiling range	/
Flash point	64.0°C.
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	/
Vapour density	/
Relative density	/
Solubility(ies)	Miscible in water.
Partition coefficient: n-octanol/water	/
Auto-ignition temperature	/
Decomposition temperature	/
Viscosity	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: This material is stable in normal temperature.

Possibility of hazardous reactions: Decomposes on heating and on contact with strong acids. This produces carbon monoxide. The substance is a medium strong acid. Reacts violently with oxidants. Reacts violently with strong bases. This generates fire and explosion hazard. Attacks many plastics and metals.

Conditions to avoid: Spark, static electricity and high temperature.

Incompatible materials: Flammable materials, oxidizer, strong acid and strong alkali.

Hazardous decomposition products: Oxycarbides.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects: Accidental ingestion of the material may be corrosive and cause cough and throat pain. Oral intake may cause headache, giddiness, vomit and other symptoms. This material may produce skin and eyes burn.

Chronic health effects: The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterized by skin redness (erythema) and swelling epidermis. Repeated or prolonged exposure to this material may damage respiratory system.

Numerical measures of toxicity (such as acute toxicity estimates):

LD50(Oral, rat): 730 mg/kg



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LC50(Inhalation, rat): 15 mg/L/15m

Section 12 ECOLOGICAL INFORMATION

Toxicity: Harmful to aquatic life.

Persistence and degradability: Low.

Bioaccumulative potential: Low.

Mobility in soil: High.

Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

Section 14 TRANSPORT INFORMATION

UN number: 1779.

UN proper shipping name: FORMIC ACID with more than 85% acid by mass.

Transport hazard class(es): 8+3.

Packing group, if applicable: II.

Environmental hazards: /

Special precautions for user: /

Section 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB 16483-2008, GB 13690-2009, GB/T 15098-2008, GB 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB 191-2009, GB 12268-2008, GA 57-1993, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation [Published by the Ministry of Railways, 2008], Dangerous Chemicals Safety Administrative Regulation [Published by the State Council, 2011].

Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	18-March-2024

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.

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大连川容科技发展有限公司

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