Safety Data Sheet

CAI 200

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product Name	CAI 200
Application	Corrosion Inhibitor Intensifier
User	Condor Energy Services Ltd Level 4, 15 Ogilvie Road Mount Pleasant WA 6153 AUSTRALIA +61 8 9106 9176
Supplier	Nalco 1601 W. Diehl Rd Naperville, Illinois 60563-1198 USA
Emergency Contacts	**Alert SGS 1 800 205 506** **+65 6542 9595**

2. HAZARDS IDENTIFICATION	
Hazard classification	
CORROSIVE	This product is classified as **hazardous** according to Safe Work Australia. This product is classified as a **Dangerous Good** according to national and/or international regulations.
R-phrase(s	Causes burns
S-phrase(s)	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and/or its container must be disposed of as hazardous waste.
Other hazards which do not result in classification	None known

3. COMPOSITION / INFORMATION ON INGREDIENTS		
Chemical Name	**CAS-No.**	**Concentration: (%)**
Formic Acid	64-18-6	60 - 100
The balance of the substances in this product are not classified as hazardous or are present below hazard cut-off limits		

4. FIRST AID MEASURES	
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately
If swallowed	Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766). Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately
If inhaled	Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur
Protection of first-aiders	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	Treat symptomatically
See toxicological information (Section 11)	

5. FIRE FIGHTING MEASURES	
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known.
Specific hazards during firefighting	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance.
Hazardous combustion products	Carbon oxides
Special protective equipment for firefighters	Use personal protective equipment
Specific extinguishing methods	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations
Hazchem Code	2X

6. ACCIDENTAL RELEASE MEASURES	
DG - Initial Emergency Response Guide No.	36
Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	Do not allow contact with soil, surface or ground water
Methods and materials for containment and cleaning up	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

7. HANDLING AND STORAGE	
Advice on safe handling	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation.
Conditions for safe storage	Keep away from heat and sources of ignition. Keep away from oxidizing agents. Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use
Unsuitable material	Not determined

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Formic Acid	64-18-6	TWA	5 ppm 9.4 mg/m3	AU OEL
		VLE	10 ppm 19 mg/m3	AU OEL
Formic Acid	64-18-6	WES-STEL	10 ppm 19 mg/m3	NZ OEL
		WES-TWA	5 ppm 9.4 mg/m3	NZ OEL
Formic Acid	64-18-6	TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH

		TWA	5 ppm 9 mg/m3	NIOSH REL
		TWA	5 ppm 9 mg/m3	OSHA Z1

Engineering measures	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.
Personal protective equipment	
Eye protection	Safety goggles Face-shield
Hand protection	Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough
Skin protection	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard

9. PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Liquid
Colour	Colourless
Odour	Pungent
Flash point	66.0 deg C min
pH	1.0, 100%
Odour threshold	No data available
Melting/point/freezing point	Melting point: -10.0 deg C
Initial boiling point and range	107 deg C (calculated)
Evaporation rate	No data available
Flammability (solid, gas)	No data available

9. PHYSICAL AND CHEMICAL PROPERTIES	
Upper Explosion Limit	No data available
Lower Explosion Limit	No data available
Vapour pressure	33.0 mm Hg (20.0 deg C)
Relative vapour density	No data available
Density	No data available
Water solubility	Completely soluble
Solubility in other solvents	No data available
Partition co-efficient: n-octanol/water	No data available
Auto-ignition temp	No data available
Thermal decomposition	Carbon dioxides
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
VOC	85.0%

10. STABILITY AND REACTIVITY	
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Heat, flames and sparks
Incompatible materials	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Bases - Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors.
Hazardous decomposition products	Carbon oxides

11. TOXICOLOGICAL INFORMATION	
Information on likely routes of exposure	Inhalation, Eye contact, Skin contact
Potential Health Effects	
Eyes	Causes serious eye damage
Skin	Causes severe skin burns.
Ingestion	Causes digestive tract burns
Inhalation	Health injuries are not known or expected under normal use.
Chronic exposure	Health injuries are not known or expected under normal use.
Experience with human exposure	
Eye contact	Redness, Pain, Corrosion
Skin contact	Redness, Pain, Corrosion
Ingestion	Corrosion, Abdominal pain
Inhalation	Respiratory irritation, cough
Toxicity - Product	
Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC
Reproductive effects	No toxicity to reproduction
Germ cell mutagenicity	Contains no ingredient listed as a mutagen
Teratogenicity	No data available
STOT - single exposure	No data available

11. TOXICOLOGICAL INFORMATION	
STOT - repeated exposure	No data available
Aspiration toxicity	No aspiration toxicity classification
HUMAN HAZARD CHARACTERIZATION	Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION	
Eco toxicity	
Toxicity to fish	No data available
Toxicity to daphnia and other aquatic invertebrates	No data available
Toxicity to algae	No data available
Components	
Toxicity to fish	Formic Acid LC50 : > 100 mg/l Exposure time: 96 h
Persistence and degradability	
The organic portion of this preparation is expected to be readily biodegradable	
Mobility	
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages; Air: <5% Water: 30 - 50% Soil: 50 - 70% The portion in water is expected to be soluble or dispersible.	
Bio accumulative potential	
This preparation or material is not expected to bio accumulate	

12. ECOLOGICAL INFORMATION	
Other information	
no data available	
ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION	Based on our hazard characterization, the potential environmental hazard is: Moderate

13. DISPOSAL CONSIDERATIONS	
Disposal methods	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility
Disposal considerations	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers

14. TRANSPORT INFORMATION	
The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport	
Land transport	
Proper shipping name	FORMIC ACID SOLUTION
UN/ID No.	UN 1779
Transport hazard class(es)	8
Packing group:	II
IERG No	36
Special precautions for user	Dangerous goods of Class 8 (Acids) are incompatible in a placard load with any of the following: Class 1 Explosives Class 4.3 Dangerous when wet substances Class 5.1 Oxidising agents Class 5.2 Organic peroxides Class 6 Cyanides only Class 7 Radioactive substances Incompatible with food or food packaging in any quantity

14. TRANSPORT INFORMATION	
Air transport (IATA)	
Proper shipping name	FORMIC ACID SOLUTION
UN/ID No.	UN 1779
Transport hazard class(es)	8
Packing group:	II
Sea transport (IMO/IMDG)	
Proper shipping name	FORMIC ACID SOLUTION
UN/ID No.	UN 1779
Transport hazard class(es)	8
Packing group:	II

15. REGULATORY INFORMATION	
Standard for the Uniform Scheduling of Medicines and Poisons	Schedule 5
INTERNATIONAL CHEMICAL CONTROL LAWS :	
TOXIC SUBSTANCES CONTROL ACT (TSCA)	The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)	The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.
AUSTRALIA	All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).
EUROPE	The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.
JAPAN	All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).
KOREA	All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

15. REGULATORY INFORMATION	
NEW ZEALAND	All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.
PHILIPPINES	All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION	
REFERENCES	Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.
	IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer
	Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.
	Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service
	Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.
	The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.
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