

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CF600CI

Other means of identification : Not applicable.

Recommended use : ACID CORROSION INHIBITOR

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Condor Energy Services Ltd
Level 4 / 15 Ogilvie Road
Mt Pleasant, 6153

Western Australia
TEL: +61 8 9315 5986
FAX: +61 8 9364 8569

Emergency telephone : 1800 205 506
number International: +65 6542 9595 Free call: +800 2537 8747

Issuing date : 11.11.2014

Section: 2. HAZARDS IDENTIFICATION**Hazard classification**

HIGHLY FLAMMABLE, 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)

Highly flammable.

Harmful by inhalation, in contact with skin and if swallowed.

Causes burns.

Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

May cause sensitization by skin contact.

S-phrase(s)

Keep container in a well-ventilated place.

Keep away from sources of ignition - No smoking.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Take precautionary measures against static discharges.

Wear suitable protective clothing, gloves and eye/face protection.

SAFETY DATA SHEET

CF600CI

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other hazards which do not result in classification

None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Formic Acid	64-18-6	30 - 60
Cinnamaldehyde	104-55-2	10 - 30
Isopropanol	67-63-0	5 - 10
2-Mercaptoethyl Alcohol	60-24-2	1 - 5
Methanol	67-56-1	1 - 5

Section: 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.
- Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during : Fire Hazard

SAFETY DATA SHEET

CF600CI

- firefighting : Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Hazardous combustion products : Carbon oxides
- Special protective equipment for firefighters : Use personal protective equipment.
- Specific extinguishing methods : Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Hazchem Code : ●3WE

Section: 6. ACCIDENTAL RELEASE MEASURES

- INITIAL EMERGENCY RESPONSE GUIDE NO : 18
- 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.

Section: 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 in a cool, well-ventilated place. Keep away from oxidizing agents. 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: HDPE (high density polyethylene), Stainless Steel 304, Stainless Steel 316L, Hastelloy C-276, PTFE, Perfluoroelastomer

SAFETY DATA SHEET

CF600CI

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Ethylene propylene, Mild steel, Polypropylene, Polyethylene, Plexiglass, EPDM, Brass, PVC, Buna-N, Polyurethane, Neoprene, Aluminum, Chlorosulfonated polyethylene rubber, Polytetrafluoroethylene/polypropylene copolymer, Fluoroelastomer

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Formic Acid	64-18-6	TWA	5 ppm 9.4 mg/m ³	AU OEL
		VLE	10 ppm 19 mg/m ³	AU OEL
Formic Acid	64-18-6	WES-STEL	10 ppm 19 mg/m ³	NZ OEL
		WES-TWA	5 ppm 9.4 mg/m ³	NZ OEL
Formic Acid	64-18-6	TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH
		TWA	5 ppm 9 mg/m ³	NIOSH REL
		TWA	5 ppm 9 mg/m ³	OSHA Z1
Isopropanol	67-63-0	TWA	400 ppm 983 mg/m ³	AU OEL
		VLE	500 ppm 1,230 mg/m ³	AU OEL
Isopropanol	67-63-0	WES-TWA	400 ppm 983 mg/m ³	NZ OEL
		WES-STEL	500 ppm 1,230 mg/m ³	NZ OEL
Isopropanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m ³	NIOSH REL
		STEL	500 ppm 1,225 mg/m ³	NIOSH REL
		TWA	400 ppm 980 mg/m ³	OSHA Z1
2-Mercaptoethyl Alcohol	60-24-2	TWA	0.2 ppm	WEEL
Methanol	67-56-1	TWA	200 ppm 262 mg/m ³	AU OEL
		VLE	250 ppm 328 mg/m ³	AU OEL
Methanol	67-56-1	WES-TWA	200 ppm 262 mg/m ³	NZ OEL
		WES-STEL	250 ppm 328 mg/m ³	NZ OEL
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH

SAFETY DATA SHEET

CF600CI

		TWA	200 ppm 260 mg/m ³	NIOSH REL
		STEL	250 ppm 325 mg/m ³	NIOSH REL
		TWA	200 ppm 260 mg/m ³	OSHA Z1

Engineering measures : Effective exhaust ventilation system Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Face-shield

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : dark brown

Odour : Sharp

Flash point : 13 °C
Method: ASTM D 93, Pensky-Martens closed cup

pH : 3.1, 5 %

Odour Threshold : no data available

Melting point/freezing point : no data available

Initial boiling point and boiling range : 64.4 °C

Evaporation rate : no data available

Flammability (solid, gas) : no data available

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : 92.5 mm Hg (15.6 °C)

SAFETY DATA SHEET

CF600CI

	118.4 mm Hg (37.7 °C)
Relative vapour density	: 1.11
Relative density	: 1.11 (15.6 °C)
Density	: 9.26 lb/gal
Water solubility	: dispersible
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition temperature	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: 12 mm ² /s (40 °C)
VOC	: no data available

Section: 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. Strong 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.

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	: Causes serious eye damage.
Skin	: Harmful in contact with skin. Causes severe skin burns. May cause allergic skin reaction.
Ingestion	: Harmful if swallowed. Causes digestive tract burns.
Inhalation	: Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion

SAFETY DATA SHEET

CF600CI

Skin contact : Redness, Pain, Irritation, Corrosion, Allergic reactions

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 : Contains no ingredient listed as a carcinogen

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

STOT - repeated exposure : no data available

Aspiration toxicity : No aspiration toxicity classification

Components

Acute oral toxicity : Isopropanol
LD50 rat: 4,710 mg/kg

2-Mercaptoethyl Alcohol
LD50 rat: 131 mg/kg

Components

Acute inhalation toxicity : Isopropanol
LC50 rat: 30 mg/l
Exposure time: 4 h

SAFETY DATA SHEET

CF600CI

2-Mercaptoethyl Alcohol
LC50 rat: 2 mg/l
Exposure time: 4 h

Components

Acute dermal toxicity : Isopropanol
LD50 rabbit: 12,870 mg/kg

2-Mercaptoethyl Alcohol
LD50 rabbit: 168 mg/kg

HUMAN HAZARD CHARACTERIZATION

Based on our hazard characterization, the potential human hazard is: High

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product

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

Isopropanol
LC50 Fish: 9,640 mg/l
Exposure time: 96 h

Methanol
LC50 : 15,400 mg/l
Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates : 2-Mercaptoethyl Alcohol
EC50 : 0.89 mg/l
Exposure time: 48 h

Methanol
EC50 : > 10,000 mg/l
Exposure time: 48 h

Components

Toxicity to algae : Methanol
EC50 : 22,000 mg/l
Exposure time: 72 h

Components

SAFETY DATA SHEET

CF600CI

Toxicity to bacteria : Methanol
> 1,000 mg/l

Components

Toxicity to fish (Chronic toxicity) : Methanol
NOEC: 7,900 mg/l
Exposure time: 8.3 d

Persistence and degradability

The organic portion of this preparation is expected to be inherently 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 : 10 - 30%
Soil : 50 - 70%

The portion in water is expected to float on the surface.

Bioaccumulative potential

Component substances have a low potential to bioconcentrate.

Other information

no data available

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Low

Section: 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.

Section: 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 : FLAMMABLE LIQUID, CORROSIVE, N.O.S.

SAFETY DATA SHEET

CF600CI

Technical name(s) : Isopropanol, Formic Acid
UN/ID No. : UN 2924
Transport hazard class(es) : 3, 8
Packing group : II
IERG No : 18
Hazchem Code : ●3WE

Special precautions for user : Dangerous goods of Class 3 (Flammable Liquid) Subsidiary Class 8 (Alkali) are incompatible in a placard load with any of the following:
and are incompatible with food or food packaging in any quantity.
Class 1 Explosives
Class 2.1 Flammable gases (where both are in bulk)
Class 2.3 Poisonous gases
Class 4.2 Spontaneously combustible substances
Class 4.3 Dangerous when wet substances
Class 5.1 Oxidising agents
Class 5.2 Organic peroxides
Class 7 Radioactive substances

Air transport (IATA)

UN/ID No. : UN 2924
Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Technical name(s) : Isopropanol, Formic Acid
Transport hazard class(es) : 3, 8
Packing group : II

Sea transport (IMDG/IMO)

UN/ID No. : UN 2924
Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Technical name(s) : Isopropanol, Formic Acid
Transport hazard class(es) : 3, 8
Packing group : II

Section: 15. REGULATORY INFORMATION

Standard for the Uniform : Schedule 6
Scheduling of Medicines and
Poisons

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 substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA

This product contains substance(s) which are not in compliance with the Provisions on the Environmental Administration of New Chemical Substances and may require additional review.

SAFETY DATA SHEET

CF600CI

EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN

This product contains substance(s) which are not in compliance with the Law Regulating the Manufacture and Importation Of Chemical Substances and are not listed on the Existing and New Chemical Substances list (ENCS).

KOREA

This product contains substance(s) which are not in compliance with the Toxic Chemical Control Law (TCCL) and may require additional review.

PHILIPPINES

This product contains substance(s) which are not in compliance with the Republic Act 6969 (RA 6969) and may require additional review.

Section: 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.

Revision Date : 11.11.2014
Version Number : 1.1
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the MSDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

info@condorenergy.com.au