SAFETY DATA SHEET

1. Identification

Product identifier **CIMTECH® 410C**
METALWORKING FLUID

Other means of identification
SDS No. Not applicable

Recommended use of the chemical and restrictions on use
Recommended use METALWORKING FLUID
Restrictions on use Not available.

Details of manufacturer or importer

Manufacturer
Company name CIMCOOL® Korea Inc
Address 255,Gongdan-ro,Onsan-eup,Ulju-gun,Ulsan,Korea

Telephone +82-52-239-2333
Emergency telephone number (Korea CHEMTREC) 003-0813-2549

Importer / Supplier
Company name CIMCOOL® Korea Inc
Address C/- DuBois Chemicals Australia Pty Ltd
305 Frankston Dandenong Road
Dandenong South VIC 3175
Australia
Telephone (General Information) + 61 3 9768 3860
Emergency Telephone Number (Australia) 131 126 (Poison Information Centre)
Emergency Telephone Number (Australia CHEMTREC) + 61 2 9037 2994

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Skin irritation	Category 2
	Serious eye irritation	Category 2
Environmental hazards	Not classified.	

Label elements, including precautionary statements

Hazard symbol(s)

Exclamation mark

Signal word Warning

Hazard statement(s) Causes skin irritation. Causes serious eye irritation.

Precautionary statement(s)

Prevention	Wash thoroughly after handling. Wear eye protection/face protection. Wear protective gloves.
Response	IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None known.

Supplemental information 14% of the mixture consists of component(s) of unknown acute oral toxicity. 14% of the mixture consists of component(s) of unknown acute dermal toxicity. 23% of the mixture consists of component(s) of unknown acute inhalation toxicity.

The classified hazards shown on this SDS are associated with the product concentrate. These hazards are not expected under recommended use conditions and dilution.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
TRIETHANOLAMINE	102-71-6	10 - < 20
MONOETHANOLAMINE	141-43-5	1 - < 5
TRIAZINETRIETHANOL	4719-04-4	1 - < 5
Other components below reportable levels		70 - < 80

The exact percentages of hazardous ingredients have been withheld as a trade secret.

4. First-aid measures

Description of necessary first aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly. Drink 1 or 2 glasses of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Personal protection for first-aid responders If exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

Symptoms caused by exposure Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Water Spray or Fog. Foam. Dry powder. Carbon dioxide (CO2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Not applicable, non-combustible.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters Wear suitable protective equipment.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Hazchem code 2X

General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.
Methods and materials for containment and cleaning up	Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water. Clean up in accordance with all applicable regulations. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling	Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	15 mg/m3
		6 ppm
	TWA	7.5 mg/m3
		3 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	7.6 mg/m3
		3 ppm
	TWA	2.5 mg/m3
		1 ppm

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
MONOETHANOLAMINE (CAS 141-43-5)	TWA	0.51 mg/m3	Vapor and aerosol.
		0.2 ppm	Vapor and aerosol.
TRIETHANOLAMINE (CAS 102-71-6)	TWA	1 mg/m3	Inhalable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection Do not get in eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

Skin protection

Hand protection Nitrile gloves are recommended.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance CLEAR

Physical state Liquid.

Form Liquid.

Color Not available.

Odor CHEMICAL

Odor threshold Not available.

pH 9.9

Melting point/freezing point < 32 °F (< 0 °C)

Initial boiling point and boiling range > 212 °F (> 100 °C)

Flash point Not Applicable

Evaporation rate Like water when diluted

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	100 % Water Miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	9.2 @ 5%
Specific gravity	1.070

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Oxidizing agents. Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines.
Hazardous decomposition products	Smoke, fumes, oxides of nitrogen, and oxides of carbon

11. Toxicological information

Information on possible routes of exposure

Inhalation	Health injuries are not known or expected under normal use.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Health injuries are not known or expected under normal use.
Symptoms related to exposure	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Skin irritation.

Acute toxicity

Components	Species	Test Results
TRIAZINETRIETHANOL (CAS 4719-04-4)		
Acute		
Dermal		
Liquid		
LD50	Rat	4000 mg/kg
Oral		
Liquid		
LD50	Rat	1000 mg/kg
TRIETHANOLAMINE (CAS 102-71-6)		
Acute		
Dermal		
Liquid		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Oral		
Liquid		
LD50	Rat	4190 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

TRIETHANOLAMINE (CAS 102-71-6) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

Other information The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
MONOETHANOLAMINE (CAS 141-43-5)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	114 - 196 mg/l, 96 hours
Acute			
Crustacea	EC50	Daphnia	65 mg/l, 48 hours ECHA
TRIAZINETRIETHANOL (CAS 4719-04-4)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	11.9 mg/l, 48 hours ECHA
Fish	LC50	Fish	16 - 240 mg/l, 96 hours ECHA
TRIETHANOLAMINE (CAS 102-71-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	450 - 1000 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
MONOETHANOLAMINE	-1.31
TRIAZINETRIETHANOL	-2
TRIETHANOLAMINE	-2.3

Mobility in soil This product is miscible in water.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals.

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

MONOETHANOLAMINE (CAS 141-43-5)
TRIETHANOLAMINE (CAS 102-71-6)

Australia Medicines & Poisons Appendix F

MONOETHANOLAMINE (CAS 141-43-5)
TRIETHANOLAMINE (CAS 102-71-6)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

MONOETHANOLAMINE (CAS 141-43-5)
TRIETHANOLAMINE (CAS 102-71-6)

Australia Medicines & Poisons Schedule 5

MONOETHANOLAMINE (CAS 141-43-5)
TRIETHANOLAMINE (CAS 102-71-6)

Australia Medicines & Poisons Schedule 6

MONOETHANOLAMINE (CAS 141-43-5)

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

High Volume Industrial Chemicals (HVIC)

MONOETHANOLAMINE (CAS 141-43-5)	1000 - 9999 TONNES See the regulation for additional information.
TRIETHANOLAMINE (CAS 102-71-6)	1000 - 9999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

Issue date 06-02-2015

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Disclaimer The information provided in this 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 a 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.

Revision information This document has undergone significant changes and should be reviewed in its entirety.