

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : RANCONA™ APEX FUNGICIDE

Product code : 000000000932

Manufacturer or supplier's details

Company name of supplier : MacDermid Agricultural Solutions, Inc

Address : 245 Freight St
Waterbury, CT United States of America 06702

Telephone : (800) 423-8569

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

Restrictions on use : Agriculture, For professional users only.

Prepared by :
Regulatory.Affairs@AgripharCropSolutions.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!	
Appearance	liquid
Colour	red
Odour	mild
Hazard Summary	Causes eye irritation. Harmful if inhaled. Suspected of damaging fertility or the unborn child. Harmful to aquatic organisms.

WHMIS Regulatory status : This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

Potential Health Effects

Inhalation : Harmful if inhaled.

Eyes : Causes eye irritation.

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Chronic Exposure : Reproductive effects

Aggravated Medical Condition : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
ethane-1,2-diol	107-21-1	>= 20 - < 30
gamma-butyrolactone	96-48-0	>= 1 - < 5
Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-	125225-28-7	0.434

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove to fresh air.
If not breathing, give artificial respiration.
Obtain medical attention.
- In case of skin contact : Wash off with soap and water.
Remove contaminated clothing and shoes.
Wash contaminated clothing before reuse.
Get medical attention if irritation develops and persists.
- In case of eye contact : Rinse immediately with plenty of water for at least 15 minutes.
Obtain medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Call a physician or poison control centre immediately.
Do not give milk, alcoholic beverages or castor oil.
Never give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - large fires
Alcohol-resistant foam
Foam
Extinguishing media - small fires
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Water spray jet
- Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid contact with skin and eyes.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
Shovel into suitable container for disposal.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : NOTE TO END-USERS: The employee protection recommendations on this SDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.

Conditions for safe storage : Keep tightly closed in a dry and cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ethane-1,2-diol	107-21-1	CEV	100 mg/m ³	CA ON OEL
		(c)	100 mg/m ³	CA AB OEL
		(c)	100 mg/m ³	CA AB OEL
		TWA (particulate)	10 mg/m ³	CA BC OEL
		STEL (particulate)	20 mg/m ³	CA BC OEL
		C (aerosol)	100 mg/m ³	CA BC OEL
		C (Vapour)	50 ppm	CA BC OEL
		C (Vapour and mist)	50 ppm 127 mg/m ³	CA QC OEL

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Personal protective equipment

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

Hand protection

Remarks : Impervious gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : Long sleeved clothing

Protective measures : Wear suitable gloves and eye/face protection.

Hygiene measures : Avoid contact with eyes.
Avoid breathing dust or vapour.
Avoid prolonged or repeated contact with skin.
Use with adequate ventilation.
Wash hands and face thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : red

Odour : mild

Odour Threshold : No data available

pH : 5.5 - 7.5

: No data available

: No data available

Flash point : > 110 °C

Evaporation rate : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : 1.062 (20 °C)

Solubility(ies)

Water solubility : No data available

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

 Viscosity, dynamic : No data available

 Viscosity, kinematic : No data available

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Incompatible materials : Strong oxidizing agents
Acids

Hazardous decomposition products : Carbon oxides
Nitrogen oxides (NO_x)
Other hazardous decomposition products may be formed.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Eye contact

Acute toxicity

Product:

Acute inhalation toxicity : LC50 (Rat): > 2.07 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
GLP: yes

Components:

ethane-1,2-diol:

Acute oral toxicity : LD50 (Rat, female): 4,700 mg/kg

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Acute dermal toxicity : LD50 (Rabbit): 10,670 mg/kg

gamma-butyrolactone:

Acute oral toxicity : LD50 (Rat): 1,540 mg/kg

Acute dermal toxicity : LD50 (Guinea pig): > 5,000 mg/kg

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Acute oral toxicity : LD50 (Rat, male): 1,338 mg/kg
Method: OECD Test Guideline 401
GLP: yes

LD50 (Rat, female): 888 mg/kg
Method: OECD Test Guideline 401
GLP: yes

LD50 (Mouse, male): 537 mg/kg
Method: OECD Test Guideline 401
GLP: yes

LD50 (Mouse, female): 468 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.88 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

LC50 (Rat, male and female): > 3.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Product:

Species: Rabbit
Result: slight irritation
GLP: yes

Components:

gamma-butyrolactone:

Species: Rabbit
Result: No skin irritation

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Species: Rabbit
Exposure time: 4 h
Result: No skin irritation
GLP: yes

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Mild eye irritation
GLP: yes

Components:

gamma-butyrolactone:

Species: Rabbit
Result: Eye irritation
Method: Draize Test

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Product:

Species: Guinea pig
Method: Buehler Test
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

Components:

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Species: Guinea pig
Method: Magnusson-Kligmann-Test
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

Germ cell mutagenicity

Components:

gamma-butyrolactone:

Genotoxicity in vitro : Test Type: in vitro assay
Metabolic activation: with and without metabolic activation
Result: positive

 : Test Type: Chromosome aberration test in vitro
Result: positive

 : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Genotoxicity in vitro : Test Type: Unscheduled DNA synthesis (UDS)
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Species: Mouse (male)
Result: negative

Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative

: Test Type: In Vitro mammalian Cell Gene Mutation Test
Metabolic activation: with and without metabolic activation
Result: negative

: Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Species: Mouse
Cell type: Bone marrow
Result: negative

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

Carcinogenicity

Product:

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.

Components:

gamma-butyrolactone:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Reproductive toxicity

Components:

gamma-butyrolactone:

Reproductive toxicity - Assessment : No toxicity to reproduction
No effects on or via lactation

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Effects on fertility : Species: Rat
Dose: 0, 30, 100 or 300 ppm
General Toxicity F1: No observed adverse effect level: 9 - 10 mg/kg bw/day

STOT - single exposure

Product:

Remarks: No data available

STOT - repeated exposure

Components:

gamma-butyrolactone:

Exposure routes: Oral
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Target Organs: Eyes
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Species: Rat, female
NOAEL: 7 mg/kg
LOAEL: 33.2 mg/kg
Application Route: Oral
Exposure time: 13 weeks
Dose: 3.1, 7.0, 15.4 and 33.2 mg/kg
GLP: yes
Target Organs: Adrenal gland, thymus gland

Species: Rat, male
NOAEL: 25.9 mg/kg
LOAEL: 52.2 mg/kg
Application Route: Oral
Exposure time: 13 weeks
Dose: 2.5, 5.8, 12.6, 25.9 and 52.2
GLP: yes
Target Organs: Adrenal gland, thymus gland

Species: Rat, male and female

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

NOAEL: 10 mg/kg
LOAEL: 40 mg/kg
Application Route: Dermal
Exposure time: 13 weeks
Dose: 0, 2, 10 or 40 mg/kg bw/day
GLP: yes

Species: Rat, male and female
NOAEL: 30 mg/kg
LOAEL: 100 mg/kg
Application Route: Inhalation
Exposure time: 28-day
Dose: 0, 30, 100, 300 or 1000 mg/m³
GLP: yes

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

gamma-butyrolactone:

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 220 - 460 mg/l
Exposure time: 96 h
Test Type: static test
Method: DIN 38412
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
- Toxicity to algae : EC50 (Green algae (Scenedesmus subspicatus)): 79 mg/l
Exposure time: 96 h

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

- Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.3 mg/l
Exposure time: 96 h
Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.7 mg/l
Exposure time: 48 h
GLP: yes
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.62 mg/l
Exposure time: 72 h
GLP: yes
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.00044 mg/l
Exposure time: 28 d

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0109 mg/l
Exposure time: 21 d
GLP: yes

M-Factor (Chronic aquatic toxicity) : 100

Persistence and degradability

Components:

gamma-butyrolactone:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: Readily biodegradable
Biodegradation: 62 - 90 %
Exposure time: 14 d

Bioaccumulative potential

Components:

ethane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1.3

gamma-butyrolactone:

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -0.566
Method: OECD Test Guideline 107

Cyclopentanol,2-[(4-chlorophenyl)methyl]-5-(1-methylethyl)-1-(1H-1,2,4-triazol-1-ylmethyl)-:

Partition coefficient: n-octanol/water : log Pow: 4.21

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D1B: Toxic Material Causing Immediate and Serious Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects
This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

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.

CA / EN

Material Safety Data Sheet

RANCONA™ APEX FUNGICIDE

Version 1.5 Revision Date: 06.05.2015 MSDS Number: 000000000932 Country: CA
Language: EN

Carechem24 International Worldwide Coverage

Emergency Phone Number

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558
	New Zealand	+64 9929 1483
	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347
	Thailand	001800 1 2066 6751
	Korea	+65 3158 1285 +82 (0)234 798 401
	Vietnam	+65 3158 1255
	India	+65 3158 1198 +91 1166 411 405
	Pakistan	+65 3158 1329
	Philippines	+65 31581203
	Sri Lanka	+65 3158 1195
	Emergency Phone Number	+65 3158 1200
<u>Middle East / Africa:</u>	Arabic speaking countries	+44 (0) 1235 239 671
	South Africa	+27 21 300 2732
	All other countries	+44 (0) 1235 239 670
<u>America</u>	United States of America and Canada	+1866 928 0789 +1 215 207 0061
<u>Latin America:</u>	Brazil	+55 113 711 9144
	Mexico	+52 555 004 8763
	Chile	+56 225 829 336
	All other countries	+44 (0) 1235 239 670