SAFETY DATA SHEET

DANADIM® PROGRESS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	20.04.2021	50000633	Date of first issue: 20.04.2021

Section 1: Identification

Product name : DANADIM® PROGRESS

Other means of identification : ROGOR
HUNTER
MARKIZ
DMT 400GL EC
Dimethoate 400 G/L EC
DANADIM
RODAN

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC New Zealand Ltd

Address : 6 Clayton Street, Newmarket
Auckland AKL 1023

Telephone : 0800 65 8080

Telefax : (09)-271-2961

Emergency telephone number : For leak, fire, spill or accident emergencies, call:
0800 734 607 (Ixom)

Medical emergency:
0800 764 766 (NZ Poisons Information Centre)
0800 111174 (24 hour Medical Emergency)
0800 387668 (Transport Emergency)

Section 2: Hazard identification

HSNO Classification

Flammable Liquids : 3.1C

Acute toxicity (Oral) : 6.1C

Toxic to Reproduction : 6.8B

Aquatic toxicity (Acute or Chronic) : 9.1B

Respiratory sensitisation	:	6.5A
Skin sensitisation	:	6.5B
Specific Target Organ Toxicity	:	6.9A
Ecotoxic to soil environment	:	9.2B
Ecotoxic to terrestrial vertebrates	:	9.3A
Ecotoxic to terrestrial invertebrates	:	9.4A

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H370 Causes damage to organs.
H422 Toxic to the soil environment.
H431 Very toxic to terrestrial vertebrates.
H441 Very toxic to terrestrial invertebrates.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :
P102 Keep out of reach of children.
P103 Read label before use.

Prevention:

P201 + P202 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of

the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P391 Collect spillage.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
cyclohexanone	108-94-1	>= 30 -< 50
dimethoate (ISO)	60-51-5	>= 30 -< 50
xylene	1330-20-7	>= 10 -< 20
ethylbenzene	100-41-4	>= 1 -< 2.5

maleic anhydride	108-31-6	>= 0.25 -< 1
toluene	108-88-3	>= 0.1 -< 0.25

Section 4: First-aid measures

General advice	:	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Call a physician or poison control centre immediately. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	Toxic if swallowed. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of damaging fertility or the unborn child. Causes damage to organs.
Notes to physician	:	Treat symptomatically.

Section 5: Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	Carbon oxides Thermal decomposition can lead to release of irritating gases and vapours. Oxides of phosphorus Nitrogen oxides (NOx) Sulphur oxides
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Hazchem Code	:	3Y

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	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).

Section 7: Handling and storage

Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Conditions for safe storage : No smoking.
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.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

Section 8: Exposure controls/personal protection

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
cyclohexanone	108-94-1	WES-TWA	25 ppm 100 mg/m3	NZ OEL
	Further information: Skin absorption			
		TWA	20 ppm	ACGIH
		STEL	50 ppm	ACGIH
xylene	1330-20-7	WES-TWA	50 ppm 217 mg/m3	NZ OEL
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
ethylbenzene	100-41-4	WES-STEL	125 ppm 543 mg/m3	NZ OEL
		WES-TWA	100 ppm 434 mg/m3	NZ OEL
		TWA	20 ppm	ACGIH
maleic anhydride	108-31-6	WES-TWA	0.25 ppm 1 mg/m3	NZ OEL
	Further information: Currently under review, Sensitiser			
		TWA (Inhalable fraction and vapor)	0.01 mg/m3	ACGIH

toluene	108-88-3	WES-TWA	50 ppm 188 mg/m3	NZ OEL
	Further information: Skin absorption			
		TWA	20 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
cyclohexanone	108-94-1	1,2-Cyclohex-anediol	Urine	End of shift at end of work-week	80 mg/l	ACGIH BEI
		Cyclohexa-nol	Urine	End of shift (As soon as possible after exposure ceases)	8 mg/l	ACGIH BEI
dimethoate (ISO)	60-51-5	Cholines-terase activ-ity	Blood		60 % of baseline	NZ BEI
		Cholines-terase activ-ity	Blood		80 % of baseline	NZ BEI
		Cholines-terase activ-ity	Blood		75 % of baseline	NZ BEI
		Acetylcho-linesterase activity	In red blood cells	End of shift	70 % of an individual's baseline	ACGIH BEI
		Butyrylcho-linesterase activity	In serum or plasma	End of shift	60 % of an individual's baseline	ACGIH BEI
xylene	1330-20-7	Methylhip-puric acid	Urine	End of shift	1.5 g/l	NZ BEI
		Methylhip-puric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g cre-atinine	ACGIH BEI
ethylbenzene	100-41-4	Sum of mandelic acid and phenylgly-oxylic acids	Urine	End of exposure or end of shift	0.25 g/g creatinine	NZ BEI
		Sum of mandelic acid and phenyl gly-	Urine	End of shift (As soon as possible	0.15 g/g creatinine	ACGIH BEI

		oxylic acid		after exposure ceases)		
toluene	108-88-3	Toluene	Urine	End of exposure or end of shift	0.03 mg/l	NZ BEI
		o-Cresol	Urine	End of exposure or end of shift	0.3 mg/g Creatinine	NZ BEI
		Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

No personal respiratory protective equipment normally required.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Section 9: Physical and chemical properties

Appearance	:	liquid
Colour	:	light yellow
Odour	:	acetone-like
pH	:	4.3 - 6.6 (1% solution in water)
Melting point/freezing point	:	< 10 °C
Flash point	:	39 °C
Density	:	1.044 g/cm3
Solubility(ies) Water solubility	:	emulsifiable
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

Section 10: Stability and reactivity

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong acids Strong bases Strong oxidizing agents Not applicable
Hazardous decomposition products	:	Stable under recommended storage conditions.

Section 11: Toxicological information

Acute toxicity

Toxic if swallowed.

Product:

Acute oral toxicity	:	LD50 (Rat): > 300 - 500 mg/kg

Method: OECD Test Guideline 423
Remarks: Based on data from similar materials

LD50 (Rat): 450 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: FIFRA 81.03
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Components:

cyclohexanone:

Acute oral toxicity : LD50 (Rat): 1,890 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat, male and female): > 1,100 mg/kg

dimethoate (ISO):

Acute oral toxicity : LD50 (Rat): 387 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): ca. 1.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

xylene:

Acute oral toxicity : LD50 (Rat, male): 3,523 mg/kg
Method: Regulation (EC) No. 440/2008, Annex, B.1 bis

LD50 (Rat, female): > 4,000 mg/kg
Method: Regulation (EC) No. 440/2008, Annex, B.1 bis

Acute inhalation toxicity : LC50 (Rat, male and female): 27.6 mg/l, 6350 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: Regulation (EC) No. 440/2008, Annex, B.2

Acute dermal toxicity : LD50 (Rabbit, male): > 4,200 mg/kg

ethylbenzene:

Acute oral toxicity : LD50 Oral (Rat, male and female): 3,500 mg/kg

Acute inhalation toxicity	:	LC0 (Rat): > 2180 ppm Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 Dermal (Rabbit, male): 15,400 mg/kg

maleic anhydride:

Acute oral toxicity	:	LD50 (Rat, male and female): 1,090 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rabbit, female): 2,620 mg/kg

toluene:

Acute oral toxicity	:	LD50 (Rat): 5,580 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male): 25.7 mg/l Exposure time: 4 h Test atmosphere: vapour LC50 (Rat, female): 30 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	(Rabbit): 12,267 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Method	:	OECD Test Guideline 404
Result	:	Moderate skin irritation
Remarks	:	May cause skin irritation and/or dermatitis.

Components:

cyclohexanone:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

dimethoate (ISO):

Method	:	FIFRA 81.05
Result	:	slight irritation

xylene:

Species	:	Rabbit
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

ethylbenzene:

Species	:	Rabbit
Remarks	:	Moderate skin irritation

maleic anhydride:

Species	:	Rabbit
Exposure time	:	4 h
Result	:	Corrosive after 3 minutes to 1 hour of exposure

toluene:

Species	:	Rabbit
Assessment	:	Repeated exposure may cause skin dryness or cracking.
Result	:	Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Result	:	Moderate eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	May cause irreversible eye damage.

Components:

cyclohexanone:

Result	:	Irreversible effects on the eye
Method	:	Hen egg chorioallantoic membrane bioassay

dimethoate (ISO):

Result	:	Moderate eye irritation
Method	:	FIFRA 81.04

xylene:

Species	:	Rabbit
Result	:	Moderate eye irritation

ethylbenzene:

Species	:	Rabbit
Result	:	No eye irritation

maleic anhydride:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

toluene:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Product:

Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Remarks	:	Based on data from similar materials
Remarks	:	Causes sensitisation.

Components:

dimethoate (ISO):

Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

xylene:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

maleic anhydride:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	May cause sensitisation by skin contact.
	:	Inhalation
	:	Rat
	:	May cause sensitisation by inhalation.

toluene:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Not a skin sensitizer.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity -	:	Weight of evidence does not support classification as a germ

Assessment		cell mutagen.

Components:

cyclohexanone:

Genotoxicity in vitro	:	Test Type: in vitro DNA damage and/or repair study Test system: human diploid fibroblasts Method: OECD Test Guideline 482 Result: negative Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
Genotoxicity in vivo	:	Test Type: chromosome aberration assay Species: Rat (male and female) Application Route: inhalation (vapour) Method: OECD Test Guideline 475 Result: negative Test Type: dominant lethal test Species: Rat (male and female) Application Route: inhalation (vapour) Method: OECD Test Guideline 478 Result: negative Species: Drosophila melanogaster (vinegar fly) (male and female) Application Route: Inhalation Method: OECD Test Guideline 477 Result: negative
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

dimethoate (ISO):

Genotoxicity in vivo	:	Method: OECD Test Guideline 478 Result: negative

xylene:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Method: Regulation (EC) No. 440/2008, Annex, B.10 Result: negative Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Result: negative

Genotoxicity in vivo : Test Type: Rodent Dominant Lethal Assay
Species: Mouse (male)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 478
Result: negative

ethylbenzene:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

maleic anhydride:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration
Species: Rat (male and female)
Application Route: Inhalation
Method: OECD Test Guideline 475
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

toluene:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat
Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Components:

cyclohexanone:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	104 weeks
Dose	:	(462 and 910 mg/kg/d
LOAEL	:	3,300 ppm
Result	:	positive
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

dimethoate (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

xylene:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	103 weeks
Result	:	negative

ethylbenzene:

Species	:	Mouse, male and female
Application Route	:	Inhalation
Exposure time	:	104 weeks
Result	:	positive

maleic anhydride:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 Years
Dose	:	0, 10, 32, 100 mg/kg body weight
NOEL	:	10 mg/kg body weight
Method	:	OECD Test Guideline 451
Result	:	negative
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Product:

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

Components:

cyclohexanone:

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: inhalation (vapour) Dose: 1.02, 2.04, 4.1 mg/l General Toxicity - Parent: NOAEC: 4.1 mg/l General Toxicity F1: NOAEC: 2.04 mg/l General Toxicity F2: NOAEC: 2.04 mg/l Result: negative
Effects on foetal development	:	Species: Rabbit Application Route: Oral Dose: 50, 250, 500 mg/kg b.w. General Toxicity Maternal: NOAEL: 250 mg/kg body weight Teratogenicity: NOAEL: 500 mg/kg body weight Method: OECD Test Guideline 414 Result: No teratogenic effects
Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility.

dimethoate (ISO):

Reproductive toxicity - Assessment	:	Animal testing showed no reproductive toxicity.

xylene:

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: inhalation (vapour) General Toxicity F1: NOAEC: 2.171 mg/l Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Pre-natal Species: Rat Application Route: inhalation (vapour) Symptoms: Maternal effects Result: negative Remarks: Based on data from similar materials

ethylbenzene:

Effects on fertility	:	Species: Rat, male and female Application Route: Inhalation Method: OECD Test Guideline 415 Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat, female Application Route: Inhalation Method: OECD Test Guideline 414 Result: negative

maleic anhydride:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 0, 20, 55, and 150 milligram per kilogram General Toxicity - Parent: LOAEL: 20 mg/kg body weight Fertility: NOEL: 55 mg/kg body weight Method: OECD Test Guideline 416 Result: negative
Effects on foetal development	:	Species: Rat Application Route: Oral Duration of Single Treatment: 15 d General Toxicity Maternal: NOAEL: >= 140 mg/kg body weight Teratogenicity: NOAEL: >= 140 mg/kg body weight Embryo-foetal toxicity: NOAEL: >= 140 mg/kg body weight Method: OECD Test Guideline 414 Result: negative
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

toluene:

Effects on foetal development	:	Species: Rat Application Route: Inhalation Result: Teratogenic effects Remarks: Adverse developmental effects were observed
Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT - single exposure

Causes damage to organs.

Components:

dimethoate (ISO):

Remarks	:	No significant adverse effects were reported

xylene:

Assessment	:	May cause respiratory irritation.

toluene:

Assessment	:	May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

cyclohexanone:

Assessment	:	The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

xylene:

Exposure routes	:	Inhalation
Target Organs	:	hearing organs
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

ethylbenzene:

Exposure routes	:	Inhalation
Target Organs	:	hearing organs
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

maleic anhydride:

Exposure routes	:	inhalation (dust/mist/fume)
Target Organs	:	Respiratory system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

toluene:

Exposure routes	:	Inhalation
Target Organs	:	inner ear
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

cyclohexanone:

Species	:	Rat, male and female
NOAEL	:	143 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	40, 143 and 407 mg/kg b.w.
Method	:	OECD Test Guideline 408

dimethoate (ISO):

Species	:	Rat
LOAEL	:	2.5 mg/kg
Exposure time	:	90 days
Symptoms	:	cholinesterase inhibition

xylene:

Species	:	Rat
	:	3.515 mg/l
Application Route	:	Inhalation
Exposure time	:	13 weeks

ethylbenzene:

Species	:	Rat, male and female
NOAEL	:	75 mg/kg
Application Route	:	Oral
Exposure time	:	28 days
Method	:	OECD Test Guideline 407

Species	:	Rat, male and female
NOAEL	:	250 ppm
LOAEL	:	75 ppm
Application Route	:	inhalation (vapour)
Exposure time	:	728 days
Method	:	OECD Test Guideline 453

maleic anhydride:

Species	:	Dog, male and female
NOAEL	:	60 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	0, 20, 40, or 60 mg/kg bw/day
Method	:	OECD Test Guideline 409

Species	:	Rat, male and female
NOEL	:	10 mg/kg
Application Route	:	Oral
Exposure time	:	2 years
Dose	:	0, 10, 32, and 100 mg/kg bw
Method	:	OECD Test Guideline 452

Species	:	Rat, male and female
	:	0.0011 mg/l
Application Route	:	Inhalation
Exposure time	:	6 months
Target Organs	:	Respiratory system

toluene:

Species	:	Rat
NOAEL	:	625 mg/kg
Application Route	:	Oral
Symptoms	:	central nervous system effects

Species	:	Rat
NOAEL	:	0.098 mg/l
Application Route	:	Inhalation
Test atmosphere	:	vapour

Species	:	Rat
LOAEL	:	2.261 mg/l
Application Route	:	Inhalation
Test atmosphere	:	vapour

Aspiration toxicity

Not classified based on available information.

Product:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Components:

dimethoate (ISO):

The substance does not have properties associated with aspiration hazard potential.

xylene:

May be fatal if swallowed and enters airways.

ethylbenzene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

toluene:

May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

xylene:

General Information	:	Target Organs: inner ear Symptoms: hearing loss Target Organs: Central nervous system Symptoms: Drowsiness, Dizziness

ethylbenzene:

General Information	:	Target Organs: inner ear Symptoms: hearing loss

Further information

Product:

Remarks	:	Solvents may degrease the skin.

Section 12: Ecological information

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 61.3 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): 5.44 mg/l

aquatic invertebrates		Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 233 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.72 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.06 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 271 mg/kg Exposure time: 14 d
Toxicity to terrestrial organisms	:	LC50 (Apis mellifera (bees)): 0.127 µg/bee Exposure time: 48 h Remarks: Oral Information given is based on data obtained from similar product. LC50 (Apis mellifera (bees)): 0.214 µg/bee Exposure time: 48 h Remarks: Contact Information given is based on data obtained from similar product.

Components:

cyclohexanone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 527 - 732 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 30 min

Method: OECD Test Guideline 209

dimethoate (ISO):

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 26.11 mg/l Exposure time: 96 h Test Type: static test LC50 (Lepomis macrochirus (Bluegill sunfish)): 6 mg/l Exposure time: 96 h Test Type: static test LC50 (Oncorhynchus mykiss (rainbow trout)): 4.1 - 9.3 mg/l Exposure time: 96 h Test Type: static test LC50 (Poecilia reticulata (guppy)): 340 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.48 - 0.66 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (algae)): 35 mg/l Exposure time: 72 h Test Type: static test
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Salmo gairdneri): 0.4 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.04 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 31 mg/kg dry weight (d.w.) Exposure time: 14 d
Toxicity to terrestrial organisms	:	LD50 (Anas platyrhynchos (Mallard duck)): 42 mg/kg LD50 (Colinus virginianus (Bobwhite quail)): 10.5 mg/kg LD50 (Coturnix japonica (Japanese quail)): 84 mg/kg LD50 (Phasianus colchicus (ring-necked pheasant)): 14.1 mg/kg LD50 (Apis mellifera (bees)): 0.12 µg/bee Remarks: Contact

LD50 (Apis mellifera (bees)): 0.15 µg/bee
Remarks: Oral

xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l
Exposure time: 96 h
Test Type: Static renewal test
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 2.2 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 1.3 mg/l
Exposure time: 56 d
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l
Exposure time: 7 d
Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC (activated sludge): 16 mg/l
Exposure time: 28 h
Method: OECD Test Guideline 301F

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): 16 mg/kg
Exposure time: 14 d
Remarks: Based on data from similar materials

ethylbenzene:

Toxicity to fish : LC50 (Menidia menidia (Atlantic silverside)): 5.1 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 48 h

EC50 (Ceriodaphnia dubia (water flea)): 3.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (algae)): 3.6 mg/l Exposure time: 96 h EC50 (Skeletonema costatum (marine diatom)): 7.7 mg/l Exposure time: 96 h
Toxicity to fish (Chronic toxicity)	:	NOEC (Fish): 0.25 - 3.4 mg/l Method: QSAR
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l Exposure time: 7 d
Toxicity to microorganisms	:	Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	(Eisenia fetida (earthworms)): 0.047 mg/cm2 Exposure time: 48 d Method: OECD Test Guideline 207

maleic anhydride:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 42.81 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC10 (Pseudokirchneriella subcapitata (green algae)): 11.8 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials EC50 (Pseudokirchneriella subcapitata (green algae)): 74.35 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 10 mg/l Exposure time: 21 d
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 44.6 mg/l Exposure time: 18 h Method: DIN 38 412 Part 8

toluene:

Toxicity to fish	:	LC50 (Fish): 5.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 3.78 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Skeletonema costatum (marine diatom)): 10 mg/l Exposure time: 72 h

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus kisutch (coho salmon)): 1.4 mg/l
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia sp.): 0.74 mg/l Exposure time: 7 d
Toxicity to microorganisms	:	EC50 (Bacteria): 134 mg/l Exposure time: 3 h

Persistence and degradability

Components:

cyclohexanone:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301F

dimethoate (ISO):

Biodegradability	:	Result: Not rapidly biodegradable

xylene:

Biodegradability	:	aerobic Inoculum: activated sludge, non-adapted Concentration: 16 mg/l Result: Readily biodegradable. Biodegradation: 98 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials aerobic Inoculum: activated sludge, non-adapted Concentration: 16 mg/l Result: Readily biodegradable. Biodegradation: 94 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials aerobic Inoculum: activated sludge, non-adapted Concentration: 16.2 mg/l Result: Readily biodegradable. Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials

ethylbenzene:

Biodegradability	:	Result: Readily biodegradable.

Biodegradation: 79 %
Exposure time: 10 d

maleic anhydride:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Biodegradation: > 90 %
Exposure time: 25 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

toluene:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

cyclohexanone:

Partition coefficient: n-octanol/water : log Pow: 0.86 (25 °C)

dimethoate (ISO):

Bioaccumulation : Species: Salmo gairdneri
Bioconcentration factor (BCF): > 1,000
Remarks: Does not bioaccumulate.
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : log Pow: 0.704

xylene:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): > 4.9
Exposure time: 7 d
Concentration: 1.3 mg/l
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 3.2 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3.12 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3.15 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3.15 (20 °C)
pH: 7

Remarks: Based on data from similar materials

ethylbenzene:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 110

Partition coefficient: n-octanol/water : Pow: 4,170 (20 °C)
log Pow: 3.03 - 3.6 (20 °C)
pH: 7.84

maleic anhydride:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -2.61

toluene:

Bioaccumulation : Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)

Mobility in soil

Components:

dimethoate (ISO):

Distribution among environmental compartments : Remarks: Highly mobile in soils

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Section 13: Disposal considerations

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

Section 14: Transport information

International Regulations

UNRTDG

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
Class	:	3
Packing group	:	III
Labels	:	3

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (Cyclohexanone, Xylene, Dimethoate)
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	yes

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

Not applicable for product as supplied.

National Regulations

NZS 5433

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
Class	:	3
Packing group	:	III
Labels	:	3
Hazchem Code	:	3Y

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

HSNO Approval Number
HSR100129

The components of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AICS	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. alkoxylated short fatty alcohol O,O-DIMETHYL S-METHYLCARBAMOYLMETHYL PHOSPHORODITHIOATE
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory

Section 16: Other information

Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NZ BEI	:	New Zealand. Biological Exposure Indices
NZ OEL	:	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NZ OEL / WES-TWA	:	Workplace Exposure Standard - Time Weighted average
NZ OEL / WES-STEL	:	Workplace Exposure Standard - Short-Term Exposure Limit

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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