

GUNFM-1C-PURLOGICFLEX-500ML

Version	Revision Date:	SDS Number:	Date of last issue: 18.04.2024
3.1	20.06.2024	11225616-00005	Date of first issue: 02.06.2023

Section 1: Identification

Product name : GUNFM-1C-PURLOGICFLEX-500ML
Product code : 0892 142 8

Manufacturer or supplier's details

Company : Wurth NewZealand Ltd
Address : 99 McLauglins Road
Wiri, Auckland 2104
Telephone : +64 9 262 3040
Emergency telephone number : 0800 764 766
E-mail address : prodsafe@wuerth.com
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Recommended use of the chemical and restrictions on use

Recommended use : Sealant
Restrictions on use : Not applicable

Section 2: Hazard identification**GHS Classification**

Aerosols : Category 1
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 2
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 2
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Carcinogenicity : Category 2

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Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P260 Do not breathe 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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air

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and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Storage:

P405 Store locked up.
 P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

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

Other hazards which do not result in classification

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Diphenylmethane diisocyanate, isomers and homologues	9016-87-9	>= 30 -< 50
Phosphorous oxychloride, reaction products with propylene oxide	1244733-77-4	>= 20 -< 25
4,4'-Diphenylmethane diisocyanate	101-68-8	>= 5 -< 10
Dimethyl ether	115-10-6	>= 1 -< 10
Isobutane	75-28-5	>= 1 -< 10
Propane	74-98-6	>= 1 -< 10
Diethylene glycol	111-46-6	>= 1 -< 10

Alternative CAS Numbers for some regions

Chemical name	Alternative CAS Number(s)
Phosphorous oxychloride, reaction products with propylene oxide	13674-84-5

Section 4: First-aid measures

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- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Respiratory symptoms, including pulmonary edema, may be delayed.
Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

Section 5: Fire-fighting measures

- Suitable extinguishing media : Alcohol-resistant foam

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- Carbon dioxide (CO₂)
Dry chemical
Water spray in large fire situations
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Isocyanates
Hydrogen cyanide (hydrocyanic acid)
Chlorine compounds
Oxides of phosphorus
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Section 6: Accidental release measures

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can

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be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent.

After approximately one hour, transfer to waste container and do not seal, due to evolution of carbon dioxide.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

Section 7: Handling and storage

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe spray.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.
Do not spray on an open flame or other ignition source.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Contaminated work clothing should not be allowed out of the workplace.

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Wash contaminated clothing before re-use.

Conditions for safe storage : Store locked up.
Protect from moisture.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Do not pierce or burn, even after use.
Keep cool. Protect from sunlight.

Materials to avoid : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable liquids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Explosives

Recommended storage temperature : > 0 - 40 °C

Storage period : 12 Months

Section 8: Exposure controls/personal protection
Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Diphenylmethane diisocyanate, isomers and homologues	9016-87-9	WES-TWA (Inhalable Fraction and Vapour)	0.02 mg/m ³ (NCO)	NZ OEL
		Further information: Skin sensitiser, Respiratory sensitiser		
		WES-STEL (Inhalable Fraction and Vapour)	0.07 mg/m ³ (NCO)	NZ OEL
		Further information: Skin sensitiser, Respiratory sensitiser		
		TWA	0.005 ppm	ACGIH
4,4'-Diphenylmethane diisocyanate	101-68-8	WES-TWA (Inhalable Fraction and Vapour)	0.02 mg/m ³ (NCO)	NZ OEL
		Further information: Skin sensitiser, Respiratory sensitiser		
		WES-STEL (Inhalable Fraction and Vapour)	0.07 mg/m ³ (NCO)	NZ OEL

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		Further information: Skin sensitiser, Respiratory sensitiser		
		TWA	0.005 ppm	ACGIH
Dimethyl ether	115-10-6	WES-STEL	500 ppm 958 mg/m ³	NZ OEL
		WES-TWA	400 ppm 766 mg/m ³	NZ OEL
Isobutane	75-28-5	STEL	1,000 ppm	ACGIH
Diethylene glycol	111-46-6	WES-TWA (Inhalable Fraction and Vapour)	10 ppm 44 mg/m ³	NZ OEL
		WES-STEL (Inhalable Fraction and Vapour)	40 ppm 176 mg/m ³	NZ OEL

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
4,4'-Diphenylmethane diisocyanate	101-68-8	4,4-Diaminodi-phenyl	Urine	End of exposure or end of shift	10 µg/g creatinine	NZ BEI

Engineering measures : Processing may form hazardous compounds (see section 10).
 Minimize workplace exposure concentrations.
 If sufficient ventilation is unavailable, use with local exhaust ventilation.
 If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Self-contained breathing apparatus

Hand protection

Material : Polyethylene
 Break through time : 10 min
 Glove thickness : 0.025 mm

Material : Nitrile rubber
 Break through time : >= 120 min
 Glove thickness : >= 0.5 mm

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- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Wear the following personal protective equipment:
Safety goggles
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
-

Section 9: Physical and chemical properties

- Appearance : aerosol
- Propellant : Isobutane, Dimethyl ether, Propane
- Colour : grey
- Odour : characteristic
- Odour Threshold : No data available
- pH : substance/mixture is non-soluble (in water)
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : Not applicable
- Flash point : Not applicable
- Evaporation rate : Not applicable
- Flammability (solid, gas) : Extremely flammable aerosol.
- Upper explosion limit / Upper : No data available

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flammability limit

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : Not applicable

Relative vapour density : > 1

Relative density : 0.9 (20 °C)

Density : 0.9 g/cm³ (20 °C)

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : soluble
Solvent: organic solvents

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics

Particle size : Not applicable

Section 10: Stability and reactivity

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions.
Polymerises at high temperatures with evolution of carbon dioxide.Possibility of hazardous reactions : Extremely flammable aerosol.
Vapours may form explosive mixture with air.
Isocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by

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stirring or if the other material mixes with the isocyanate.
 Exothermic reaction with acids, amines and alcohols
 Reacts with water to form carbon dioxide and heat
 Isocyanates are not soluble in water and sink to the bottom,
 but react slowly at the interface. The reaction forms carbon
 dioxide gas and a layer of solid polyurea.
 If the temperature rises there is danger of the vessels bursting
 due to the high vapor pressure.
 Hazardous decomposition products will be formed upon con-
 tact with water or humid air.

Conditions to avoid	:	Exposure to moisture Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Acids Bases Water Alcohols Amines Ammonia Aluminium Zinc Brass Tin Copper Galvanised metals Humid air
Hazardous decomposition products	:	No hazardous decomposition products are known.

Section 11: Toxicological information

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact
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Acute toxicity

Harmful if swallowed.
 Fatal if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,976 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 1.06 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

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Components:**Diphenylmethane diisocyanate, isomers and homologues:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
- Acute inhalation toxicity : Acute toxicity estimate: > 0.05 - 0.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgement
Remarks: Based on national or regional regulation.
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Phosphorous oxychloride, reaction products with propylene oxide:

- Acute oral toxicity : LD50 (Rat): 500 - 2,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

4,4'-Diphenylmethane diisocyanate:

- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials
- Acute inhalation toxicity : Acute toxicity estimate: 0.0501 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgement
Remarks: Based on national or regional regulation.
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Dimethyl ether:

- Acute inhalation toxicity : LC50 (Rat): 164000 ppm
Exposure time: 4 h
Test atmosphere: gas

Isobutane:

- Acute inhalation toxicity : LC50 (Mouse): 260200 ppm

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Exposure time: 4 h
Test atmosphere: gas

Propane:

Acute inhalation toxicity : LC50 (Rat): > 800000 ppm
Exposure time: 15 min
Test atmosphere: gas

Diethylene glycol:

Acute oral toxicity : Acute toxicity estimate (Humans): 1,120 mg/kg
Method: Expert judgement

Skin corrosion/irritation

Causes skin irritation.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Species : Rabbit
Result : Skin irritation

Phosphorous oxychloride, reaction products with propylene oxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

4,4'-Diphenylmethane diisocyanate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Based on data from similar materials

Diethylene glycol:

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Result : Irritation to eyes, reversing within 7 days

Phosphorous oxychloride, reaction products with propylene oxide:

Species : Rabbit
Result : No eye irritation

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Method : OECD Test Guideline 405

4,4'-Diphenylmethane diisocyanate:

Result : Irritation to eyes, reversing within 7 days
Remarks : Based on national or regional regulation.

Dimethyl ether:

Result : Irritation to eyes, reversing within 21 days
Remarks : Based on national or regional regulation.

Diethylene glycol:

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.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : positive
Remarks : Based on data from similar materials

Assessment : Probability or evidence of skin sensitisation in humans

Exposure routes : inhalation (dust/mist/fume)
Species : Rat
Result : positive

Assessment : Probability of respiratory sensitisation in humans based on animal testing

Phosphorous oxychloride, reaction products with propylene oxide:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : negative

4,4'-Diphenylmethane diisocyanate:

Test Type : Buehler Test

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Exposure routes : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Exposure routes : Inhalation
Species : Rat
Result : positive
Remarks : Based on data from similar materials

Assessment : Probability of respiratory sensitisation in humans based on animal testing

Diethylene glycol:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : Directive 67/548/EEC, Annex V, B.6.
Result : negative

Chronic toxicity**Germ cell mutagenicity**

Not classified based on available information.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (dust/mist/fume)
Method: OECD Test Guideline 474
Result: negative

Phosphorous oxychloride, reaction products with propylene oxide:

Genotoxicity in vitro : Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)

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Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

4,4'-Diphenylmethane diisocyanate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (dust/mist/fume)
Method: OECD Test Guideline 474
Result: negative

Dimethyl ether:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in *Drosophila melanogaster* (in vivo)
Application Route: inhalation (gas)
Result: negative

Isobutane:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Propane:

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Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 474
Result: negative

Diethylene glycol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro sister chromatid exchange assay in mam-
malian cells
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Species : Rat
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 Years
Result : positive

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies
ment

4,4'-Diphenylmethane diisocyanate:

Species : Rat
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 Years
Result : positive
Remarks : Based on data from similar materials

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies

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ment

Dimethyl ether:

Species	:	Rat
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
Result	:	negative

Diethylene glycol:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	108 weeks
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (dust/mist/fume) Result: negative
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Phosphorous oxychloride, reaction products with propylene oxide:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative
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Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rabbit Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative
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4,4'-Diphenylmethane diisocyanate:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (dust/mist/fume) Result: negative Remarks: Based on data from similar materials
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Dimethyl ether:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
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Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Isobutane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 422
Result: negative

Propane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 422
Result: negative

Diethylene glycol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

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STOT - single exposure

May cause respiratory irritation.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Assessment : May cause respiratory irritation.

4,4'-Diphenylmethane diisocyanate:

Assessment : May cause respiratory irritation.

Dimethyl ether:

Assessment : May cause drowsiness or dizziness.

Isobutane:

Assessment : May cause drowsiness or dizziness.

Propane:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Components:**Diphenylmethane diisocyanate, isomers and homologues:**

Assessment : Causes damage to organs through prolonged or repeated exposure.

Remarks : Based on national or regional regulation.

Phosphorous oxychloride, reaction products with propylene oxide:

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

4,4'-Diphenylmethane diisocyanate:

Assessment : Causes damage to organs through prolonged or repeated exposure.

Remarks : Based on national or regional regulation.

Repeated dose toxicity**Components:****Diphenylmethane diisocyanate, isomers and homologues:**

Species : Rat
NOAEL : 1.4 mg/m³

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LOAEL : 4.1 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 13 Weeks

Phosphorous oxychloride, reaction products with propylene oxide:

Species : Rat
LOAEL : 52 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks

4,4'-Diphenylmethane diisocyanate:

Species : Rat
NOAEL : 0,2 mg/m³
LOAEL : 1 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 yr
Remarks : Based on data from similar materials

Dimethyl ether:

Species : Rat
NOAEL : 47.11 mg/l
Application Route : inhalation (vapour)
Exposure time : 2 yr

Isobutane:

Species : Rat
NOAEL : 9000 ppm
Application Route : inhalation (gas)
Exposure time : 6 Weeks
Method : OECD Test Guideline 422

Propane:

Species : Rat
NOAEL : 7.214 mg/l
Application Route : inhalation (gas)
Exposure time : 6 Weeks
Method : OECD Test Guideline 422

Diethylene glycol:

Species : Rat
NOAEL : 300 mg/kg
Application Route : Ingestion
Exposure time : 98 Days

Species : Dog
NOAEL : 2,220 mg/kg
Application Route : Skin contact
Exposure time : 4 Weeks

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Method : OECD Test Guideline 410
 Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Section 12: Ecological information
Ecotoxicity
Components:
Diphenylmethane diisocyanate, isomers and homologues:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 1,000 mg/l
 Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l
 Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 10 mg/l
 Exposure time: 21 d

Phosphorous oxychloride, reaction products with propylene oxide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 51 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 131 mg/l
 Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 82 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

EC10 (Pseudokirchneriella subcapitata (green algae)): 42 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 32 mg/l
 Exposure time: 21 d

Toxicity to microorganisms : EC50: 784 mg/l
 Exposure time: 3 h
 Method: ISO 8192

4,4'-Diphenylmethane diisocyanate:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3,000 mg/l

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Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 129.7 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 1,640 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
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Dimethyl ether:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 4,100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4,400 mg/l
Exposure time: 48 h

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 1,600 mg/l

Diethylene glycol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 75,200 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Method: DIN 38412

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox- : NOEC (Pimephales promelas (fathead minnow)): > 1 mg/l

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icity) Exposure time: 7 d
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 1 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

Persistence and degradability**Components:****Diphenylmethane diisocyanate, isomers and homologues:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d

Phosphorous oxychloride, reaction products with propylene oxide:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 14 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.D.

4,4'-Diphenylmethane diisocyanate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302
Remarks: Based on data from similar materials

Dimethyl ether:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Isobutane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 385.5 h
Remarks: Based on data from similar materials

Propane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 385.5 h
Remarks: Based on data from similar materials

Diethylene glycol:

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Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential**Components:****Phosphorous oxychloride, reaction products with propylene oxide:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.8 - 14

Partition coefficient: n-octanol/water : log Pow: 2.68

4,4'-Diphenylmethane diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200

Partition coefficient: n-octanol/water : log Pow: 4.51

Dimethyl ether:

Partition coefficient: n-octanol/water : log Pow: 0.2

Isobutane:

Partition coefficient: n-octanol/water : log Pow: 2.8

Diethylene glycol:

Partition coefficient: n-octanol/water : log Pow: -1.98
Remarks: Calculation

Mobility in soil

No data available

Other adverse effects

No data available

Section 13: Disposal considerations**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.

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Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product. Please ensure aerosol cans are sprayed completely empty (including propellant)

Section 14: Transport information**International Regulations****UNRTDG**

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 1950
Proper shipping name	:	Aerosols, flammable
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas
Packing instruction (cargo aircraft)	:	203
Packing instruction (passenger aircraft)	:	203

IMDG-Code

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U
Marine pollutant	:	no

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 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1
Marine pollutant	:	no

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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**

not allocated

Tolerable Exposure Limits (TEL)

Not applicable

Environmental Exposure Limits (EEL)

Not applicable

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

NZIoC : All ingredients listed or exempt.

Section 16: Other information

Revision Date : 20.06.2024

Further informationSources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

Full text of other abbreviationsACGIH : USA. ACGIH Threshold Limit Values (TLV)
NZ BEI : New Zealand. Biological Exposure Indices
NZ OEL : New Zealand. Workplace Exposure Standards for Atmospheric ContaminantsACGIH / 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-STEEL : Workplace Exposure Standard - Short-Term Exposure Limit

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;

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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; KECl - 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; TECl - Thailand Existing Chemicals Inventory; 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

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

NZ / EN