according to the Hazardous Products Regulations



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SECTION 1. IDENTIFICATION

Product name : W-SOL, Residue Remover, 448 g

Product code 890.132005

Other means of identification: No data available

Manufacturer or supplier's details

Company name of supplier Würth Canada Limited

Address 345 Hanlon Creek Blvd

GUELPH, ON N1C 0A1

Telephone : +1 (905) 564 6225

+1 (905) 564 3671 Telefax

Emergency telephone Emergencies involving a spill, fire, explosion or exposure:

CHEMTREC (24/7): 1-800-424-9300

Transport related emergencies:

CANUTEC (24/7): 1-613-996-6666 or * 666 (cell)

Urgences impliquant un déversement, incendie, explosion ou

exposition:

CHEMTREC (24/7): 1-800-424-9300

Urgences liées au transport:

CANUTEC (24/7): 1-613-996-6666 ou * 666 (cellulaire)

E-mail address prodsafe@wurth.ca

Recommended use of the chemical and restrictions on use

Recommended use Cleaning agent

Restrictions on use Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Aerosols Category 1

Skin irritation Category 2

Eye irritation Category 2A

Reproductive toxicity Category 2

Specific target organ toxicity Category 3

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- single exposure

Specific target organ toxicity

- repeated exposure

Category 2 (Auditory system)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated. H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (Auditory system) 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.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves, protective clothing, eye protection

and face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel

unwell.

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 attention.

P331 Do NOT induce vomiting.

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P332 + P313 If skin irritation occurs: Get medical attention.
P337 + P313 If eye irritation persists: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before

reuse.

Storage:

P405 Store locked up.

P410 + P412 Protect from sunlight. Do not expose to tempera-

tures exceeding 50 °C (122 °F).

Disposal:

P501 Dispose of contents and container to an approved waste

disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
tert-Butyl acetate	Acetic acid, 1,1- dimethylethyl ester	540-88-5	>= 30 - < 60 *
1,1-Difluoroethane	Hydrofluorocar- bon 152A	75-37-6	>= 10 - < 30 *
Distillates (petroleum), light distillate hy- drotreating process, low-boiling	No data availa- ble	68410-97-9	>= 10 - < 30 *
Xylene	Dimethylben- zene	1330-20-7	>= 10 - < 30 *
Ethylbenzene	Benzene, ethyl-	100-41-4	>= 1 - < 5 *
Toluene	Benzene, me- thyl-	108-88-3	>= 0.1 - < 1 *

^{*} Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

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

according to the Hazardous Products Regulations



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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.

If vomiting occurs have person lean forward.

Call a physician or poison control center immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and

delayed

May be fatal if swallowed and enters airways.

Causes skin irritation.

Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child.

May cause 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 : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire

fighting

Flash back possible over considerable distance.

Vapors 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 prod-

Carbon oxides

Fluorine compounds

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

according to the Hazardous Products Regulations



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Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment:

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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/vapors/mists with a water spray

jet.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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 ventila-

tion.

Advice on safe handling : Do not get on skin or clothing.

Do not breathe spray.

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> 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 as-

sessment

Keep container tightly closed.

Already sensitized individuals, and those susceptible

to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respira-

tory irritants or sensitizers.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges.

Take care to prevent spills, waste and minimize release to the

environment.

Do not spray on an open flame or other ignition source.

Conditions for safe storage Store locked up.

Keep tightly closed.

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.

Do not store with the following product types: Materials to avoid

Self-reactive substances and mixtures

Organic peroxides Oxidizing agents Flammable solids Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Substances and mixtures which in contact with water emit

flammable gases

Explosives Gases

Recommended storage tem- : < 40 °C

perature

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
tert-Butyl acetate	540-88-5	TWA	200 ppm 950 mg/m³	CA AB OEL
		TWAEV	50 ppm	CA QC OEL
		STEV	150 ppm	CA QC OEL
		TWA	50 ppm	CA BC OEL

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		STEL	150 ppm	CA BC OEL
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH
Xylene	1330-20-7	TWA	100 ppm	CA AB OEL
			434 mg/m ³	
		STEL	150 ppm	CA AB OEL
			651 mg/m ³	
		TWAEV	100 ppm	CA QC OEL
			434 mg/m ³	
		STEV	150 ppm	CA QC OEL
			651 mg/m ³	
		TWA	100 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	20 ppm	ACGIH
Ethylbenzene	100-41-4	STEL	125 ppm	CA AB OEL
			543 mg/m ³	
		TWA	100 ppm	CA AB OEL
			434 mg/m ³	
		TWA	20 ppm	CA BC OEL
		TWAEV	20 ppm	CA QC OEL
		TWA	20 ppm	ACGIH
Toluene	108-88-3	TWA	50 ppm	CA AB OEL
			188 mg/m ³	
		TWA	20 ppm	CA BC OEL
		TWAEV	20 ppm	CA QC OEL
		TWA	20 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl gly- oxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 g/g creatinine	ACGIH BEI
Toluene	108-88-3	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	0.3 mg/g creatinine	ACGIH BEI

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				possible after exposure ceases)		
Xylene	1330-20-7	Methyl- hippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI

Engineering measures : 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 venti-

lation.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the re-

commended guidelines, use respiratory protection.

Filter type : Self-contained breathing apparatus

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration 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. Breakthrough time is not determined for the pro-

duct. Change gloves often!

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).

Hygiene measures : If exposure to chemical is likely during typical use, provide

eye flushing systems and safety showers close to the wor-

king place.

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When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Aerosol containing a liquefied gas

Propellant : 1,1-Difluoroethane

Color : colorless

Odor : solvent

Odor Threshold : No data available

pH : Solvent mixture; pH value determination not possible, no

aqueous solution

Melting point/freezing point : No data available

Initial boiling point and boiling

range

98 °C

Flash point : -50 °C

Flash point is only valid for liquid portion in the aerosol can.

Evaporation rate : Not applicable

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit / Upper

flammability limit

16.9 %(V)

Lower explosion limit / Lower

flammability limit

0.9 %(V)

Vapor pressure : 2,068 - 3,447 hPa (20 °C)

Relative vapor density : Not applicable

Relative density : 0.838

Solubility(ies)

Water solubility : No data available

Partition coefficient: n- : Not applicable

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octanol/water

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : < 20.5 mm²/s (40 °C)

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 under normal conditions.

Possibility of hazardous reac-

tions

Extremely flammable aerosol.

Vapors may form explosive mixture with air.

If the temperature rises there is danger of the vessels bursting

due to the high vapor pressure.

Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition

products

No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l

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Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Components:

tert-Butyl acetate:

Acute oral toxicity : LD50 (Rat): 4,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 15 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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

Assessment: The substance or mixture has no acute dermal

toxicity

1,1-Difluoroethane:

Acute inhalation toxicity : LC50 (Rat): > 437500 ppm

Exposure time: 4 h Test atmosphere: gas

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.61 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

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

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

Xylene:

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg

Method: Directive 67/548/EEC, Annex V, B.1.

Acute inhalation toxicity : LC50 (Rat): 27.571 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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

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Ethylbenzene:

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 17.8 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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

Toluene:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 28.1 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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

Skin corrosion/irritation

Causes skin irritation.

Components:

tert-Butyl acetate:

Species : Rabbit

Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

Remarks : Based on data from similar materials

Xylene:

Species : Rabbit Result : Skin irritation

Toluene:

Species : Rabbit

Method : Directive 67/548/EEC, Annex V, B.4.

Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

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Components:

tert-Butyl acetate:

Species : Rabbit

Result : No eye irritation

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Xylene:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Toluene:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

tert-Butyl acetate:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Remarks : Based on data from similar materials

Xylene:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact Species : Mouse Result : negative

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Toluene:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig

Method : Directive 67/548/EEC, Annex V, B.6.

Result : negative

Germ cell mutagenicity

Not classified based on available information.

Components:

tert-Butyl acetate:

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: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (vapor) Method: OECD Test Guideline 474

Result: negative

1,1-Difluoroethane:

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

Method: OECD Test Guideline 471

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

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

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

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

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Application Route: Intraperitoneal injection

Result: negative

Remarks: Based on data from similar materials

Xylene:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Result: negative

Test Type: In vitro sister chromatid exchange assay in mam-

malian cells Result: negative

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: Skin contact

Result: negative

Ethylbenzene:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with

mammalian liver cells in vivo

Species: Mouse

Application Route: Inhalation Method: OECD Test Guideline 486

Result: negative

Toluene:

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

Result: negative

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Intraperitoneal injection

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Result: negative

Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: inhalation (vapor) Method: OECD Test Guideline 478

Result: negative

Carcinogenicity

Not classified based on available information.

Components:

tert-Butyl acetate:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

Remarks : Based on data from similar materials

1,1-Difluoroethane:

Species : Rat

Application Route : inhalation (vapor)
Exposure time : 104 weeks
Result : negative

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Species : Mouse
Application Route : Skin contact
Exposure time : 102 weeks
Result : negative

Remarks : Based on data from similar materials

Xylene:

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

Ethylbenzene:

Species : Rat

Application Route : inhalation (vapor)
Exposure time : 104 weeks
Result : positive

Remarks : The mechanism or mode of action may not be relevant in hu-

mans.

Toluene:

Species : Rat

Application Route : inhalation (vapor)

according to the Hazardous Products Regulations



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Exposure time : 103 weeks Result : negative

Species : Mouse
Application Route : Skin contact
Exposure time : 24 Months
Result : negative

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

tert-Butyl acetate:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: inhalation (vapor)

Method: OPPTS 870.3650

Result: negative

Effects on fetal development : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: inhalation (vapor)

Method: OPPTS 870.3650

Result: negative

1,1-Difluoroethane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (gas)

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

Result: negative

according to the Hazardous Products Regulations



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Remarks: Based on data from similar materials

Xylene:

Effects on fertility : Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Ethylbenzene:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapor) Method: OECD Test Guideline 416

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Inhalation Method: OECD Test Guideline 414

Result: negative

Toluene:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapor) Method: OECD Test Guideline 416

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

Result: positive

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on development, based on

animal experiments.

STOT-single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

Components:

tert-Butyl acetate:

Assessment : May cause respiratory irritation.

Assessment : May cause drowsiness or dizziness.

according to the Hazardous Products Regulations



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1,1-Difluoroethane:

Assessment : May cause drowsiness or dizziness.

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Assessment : May cause drowsiness or dizziness.

Xylene:

Assessment : May cause respiratory irritation.

Toluene:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

May cause damage to organs (Auditory system) through prolonged or repeated exposure.

Components:

Ethylbenzene:

Routes of exposure : inhalation (vapor)
Target Organs : Auditory system

Assessment : Shown to produce significant health effects in animals at con-

centrations of >0.2 to 1 mg/l/6h/d.

Toluene:

Routes of exposure : Inhalation

Target Organs : Central nervous system

Assessment : May cause damage to organs through prolonged or repeated

exposure.

Repeated dose toxicity

Components:

tert-Butyl acetate:

Species : Mouse NOAEL : 1.9 mg/l

Application Route : inhalation (vapor)

Exposure time : 13 Weeks

1,1-Difluoroethane:

Species : Rat

NOAEL : 100000 ppm Application Route : inhalation (gas)

Exposure time : 14 Days

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Species : Rat

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NOAEL > 20 mg/l

Application Route inhalation (vapor)

Exposure time 13 Weeks

Method OPPTS 870.3465

Remarks Based on data from similar materials

Xylene:

Species Rat LOAEL 150 mg/kg Application Route Ingestion Exposure time 90 Days

Ethylbenzene:

Species Rat

LOAEL 0.868 mg/l **Application Route** inhalation (vapor)

Exposure time 13 Weeks

Species Rat NOAEL 75 mg/kg LOAEL 250 mg/kg **Application Route** Ingestion

OECD Test Guideline 408 Method

Toluene:

Species Rat LOAEL 1.875 mg/l Application Route inhalation (vapor)

Exposure time 6 Months

Species Rat NOAEL 625 mg/kg Ingestion Application Route 13 Weeks Exposure time

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

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.

Xylene:

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.

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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:

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.

Experience with human exposure

Components:

Toluene:

Inhalation : Target Organs: Central nervous system

Symptoms: Neurological disorders

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

tert-Butyl acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 240 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 350 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 16

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 2.3

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): 8.2 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 4.5 mg/l

Exposure time: 48 h

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Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): 3.1

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOELR (Pseudokirchneriella subcapitata (green algae)): 0.5

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOELR (Pimephales promelas (fathead minnow)): 2.6 mg/l

Exposure time: 14 d

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 204

Toxicity to daphnia and other

aquatic invertebrates (Chron-

ic toxicity)

NOELR (Daphnia magna (Water flea)): 2.6 mg/l

Exposure time: 21 d

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

Xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 13.5 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l

Exposure time: 24 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Skeletonema costatum (marine diatom)): 10 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l

Exposure time: 35 d

Method: OECD Test Guideline 210

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC: > 100 mg/l

Exposure time: 3 h

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Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Ethylbenzene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6

mg/l

Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 3.4

mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l

Exposure time: 7 d

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 96 mg/l

Exposure time: 24 h

Toluene:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia dubia (water flea)): 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 tox-

icity)

NOEC (Oncorhynchus kisutch (coho salmon)): 1.39 mg/l Exposure time: 40 d

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Ceriodaphnia dubia (water flea)): 0.74 mg/l

Exposure time: 7 d

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 84 mg/l

Exposure time: 24 h

Persistence and degradability

Components:

tert-Butyl acetate:

Biodegradability : Result: Not readily biodegradable.

according to the Hazardous Products Regulations



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Biodegradation: 50 % Exposure time: 28 d

Method: OECD Test Guideline 301D

Distillates (petroleum), light distillate hydrotreating process, low-boiling:

Biodegradability : Result: Inherently biodegradable.

Biodegradation: 74.3 % Exposure time: 28 d

Xylene:

Biodegradability : Result: Readily biodegradable.

Biodegradation: > 70 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

Ethylbenzene:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 70 - 80 %

Exposure time: 28 d

Toluene:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 80 % Exposure time: 20 d

Bioaccumulative potential

Components:

tert-Butyl acetate:

Partition coefficient: n-

octanol/water

: Pow: 1.64

1,1-Difluoroethane:

Partition coefficient: n-

octanol/water

log Pow: 0.75

Xylene:

Partition coefficient: n-

log Pow: 3.16

octanol/water

Remarks: Calculation

Ethylbenzene:

Partition coefficient: n-

octanol/water

: log Pow: 3.6

Toluene:

according to the Hazardous Products Regulations



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Bioaccumulation : Species: Leuciscus idus (Golden orfe)

Bioconcentration factor (BCF): 90

Partition coefficient: n-

octanol/water

: log Pow: 2.73

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 : Please ensure aerosol cans are sprayed completely empty

(including propellant)

Empty containers should be taken to an approved waste

handling site for recycling or disposal.

Empty containers retain residue and can be dangerous. 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.

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 : yes

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)

Packing instruction (passen-

ger aircraft)

203

203

IMDG-Code

25 / 28

according to the Hazardous Products Regulations



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UN number : UN 1950
Proper shipping name : AEROSOLS

(Distillates (petroleum), light distillate hydrotreating process,

low-boiling)

Class : 2.1

Packing group : Not assigned by regulation

Labels : 2.1
EmS Code : F-D, S-U
Marine pollutant : yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number : UN 1950
Proper shipping name : AEROSOLS

Class : 2.1

Packing group : Not assigned by regulation

Labels : 2.1 ERG Code : 126

Marine pollutant : yes(Distillates (petroleum), light distillate hydrotreating pro-

cess, low-boiling)

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

Volatile organic compounds

(VOC) content

Canada - Volatile Organic Compound Concentration Limits for

Certain Products Regulations

VOC content: 30 %

International Regulations

Montreal Protocol : 1,1-Difluoroethane

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

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

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CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table

2: OEL)

CA BC OEL : Canada. British Columbia OEL

CA QC OEL : Québec. Regulation respecting occupational health and safe-

ty, Schedule 1, Part 1: Permissible exposure values for air-

borne contaminants

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

CA AB OEL / TWA : 8-hour Occupational exposure limit CA AB OEL / STEL : 15-minute occupational exposure limit

CA BC OEL / TWA : 8-hour time weighted average CA BC OEL / STEL : short-term exposure limit

CA QC OEL / TWAEV : Time-weighted average exposure value

CA QC OEL / STEV : Short-term exposure value

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; TECI - 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

Sources of key data used to compile the Material Safety

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

Data Sheet

cy, http://echa.europa.eu/

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CA / Z8