according to the Hazardous Products Regulations



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#### **SECTION 1. IDENTIFICATION**

Product name HHS 200, High-performance grease + PTFE, 246 g

Product code 893.1067

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Würth Canada Limited/Limitée

Address 345 Hanlon Creek Blvd

GUELPH, ON N1C 0A1

Telephone 1-800-263-5002

Telefax 1-905-564-3671

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

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

Urgences impliquant un déversement, incendie, explosion ou

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

E-mail address prodsafe@wurth.ca

Recommended use of the chemical and restrictions on use

Anti-friction agent and lubricant Recommended use

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

Reproductive toxicity Category 2

Specific target organ toxicity

- single exposure

Category 3

Simple Asphyxiant Category 1

**GHS** label elements

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Hazard pictograms







Signal Word Danger

Hazard Statements H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness. H361f Suspected of damaging fertility.

May displace oxygen and cause rapid suffocation.

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.

P261 Avoid breathing 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:

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.

P308 + P313 IF exposed or concerned: Get medical attention. P332 + P313 If skin irritation occurs: 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**

according to the Hazardous Products Regulations



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Substance / Mixture : Mixture

#### Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Isobutane	Propane, 2- methyl-	75-28-5	>= 30 - < 60 *
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		92128-66-0	>= 10 - < 30 *
Propane	Dimethylme- thane	74-98-6	>= 5 - < 10 *
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Heptane, branched, cyclic and linear	64742-49-0	>= 1 - < 5 *
Butane	Butyl hydride	106-97-8	>= 1 - < 5 *
Titanium dioxide	Titanic anhy- dride	13463-67-7	>= 1 - < 5 *
n-Hexane	Hexyl hydride	110-54-3	>= 0.1 - < 1 *

<sup>\*</sup> Actual concentration or concentration range is withheld as a trade secret

#### Alternative CAS Numbers for some regions

Chemical name	Alternative CAS Number(s)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes,	64742-49-0
cyclics, <5% n-hexane	

#### **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.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

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 : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

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Most important symptoms and effects, both acute and

delayed

Causes skin irritation.

May cause drowsiness or dizziness. Suspected of damaging fertility.

May displace oxygen and cause rapid suffocation. Gas reduces oxygen available for breathing.

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

None known.

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-

ucts

Carbon oxides

Metal oxides

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.

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, protec: : tive equipment and emer-

gency procedures

Evacuate personnel to safe areas. Remove all sources of ignition.

Ventilate the area.

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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.

Avoid breathing spray.

Do not swallow.

Avoid contact with 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 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

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environment.

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

Conditions for safe storage : Store locked up.

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 solids Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Substances and mixtures which in contact with water emit

flammable gases Explosives Gases

### **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Isobutane	75-28-5	TWA	1,000 ppm	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		STEL	1,000 ppm	ACGIH
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	92128-66-0	TWA (Mist)	5 mg/m³	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist - Inhalable dust)	5 mg/m³	CA QC OEL
Propane	74-98-6	TWA	1,000 ppm	CA AB OEL
		TWAEV	1,000 ppm 1,800 mg/m <sup>3</sup>	CA QC OEL
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	TWA	400 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWA	400 ppm 1,640 mg/m <sup>3</sup>	CA AB OEL
		STEL	500 ppm 2,050 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist - Inhalable	5 mg/m³	CA QC OEL

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		dust)		
		TWÁ	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
Butane	106-97-8	TWA	1,000 ppm	CA AB OEL
		TWAEV	800 ppm	CA QC OEL
			1,900 mg/m <sup>3</sup>	
		STEL	1,000 ppm	CA BC OEL
		STEL	1,000 ppm	ACGIH
Titanium dioxide	13463-67-7	TWA	10 mg/m <sup>3</sup>	CA AB OEL
		TWA (Total	10 mg/m³	CA BC OEL
		dust)		
		TWA (respir-	3 mg/m³	CA BC OEL
		able dust		
		fraction)		
		TWAEV (to-	10 mg/m³	CA QC OEL
		tal dust)		
		TWA (Respi-	2.5 mg/m <sup>3</sup>	ACGIH
		rable particu-	(Titanium dioxide)	
		late matter)		
n-Hexane	110-54-3	TWA	50 ppm	CA AB OEL
			176 mg/m <sup>3</sup>	
		TWA	20 ppm	CA BC OEL
		TWAEV	50 ppm	CA QC OEL
			176 mg/m <sup>3</sup>	
		TWA	50 ppm	ACGIH

This substance(s) is not bioavailable and therefore does not contribute to a dust inhalation hazard.

Titanium dioxide

#### **Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
n-Hexane	110-54-3	2,5- Hexanedio- ne	Urine	End of shift	0.5 mg/l	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 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.

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Filter type : Combined particulates and organic vapor type

Hand protection

Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0.45 mm

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.

Eye protection : Wear the following personal protective equipment:

Safety glasses

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.

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

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : aerosol

Propellant : Isobutane, Propane, Butane

Color : white

Odor : solvent

Odor Threshold : No data available

pH : substance/mixture is non-soluble (in water)

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Melting point/freezing point : No data available

Initial boiling point and boiling :

range

: 60 °C

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit / Upper

flammability limit

11 %(V)

Lower explosion limit / Lower

flammability limit

1 %(V)

Vapor pressure : Not applicable

Relative vapor density : Not applicable

Density : 0.773 g/cm³ (20 °C)

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : 200 °C

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 under normal conditions.

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

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

#### **Components:**

Isobutane:

Acute inhalation toxicity : LC50 (Mouse): 260200 ppm

Exposure time: 4 h
Test atmosphere: gas

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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

Acute inhalation toxicity : LC50 (Rat): > 25.2 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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

**Propane:** 

Acute inhalation toxicity : LC50 (Rat): > 800000 ppm

Exposure time: 15 min Test atmosphere: gas

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Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Acute oral toxicity : LD50 (Rat): > 5,840 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 23.3 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,800 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

**Butane:** 

Acute inhalation toxicity : LC50 (Rat): 658 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Titanium dioxide:

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

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

n-Hexane:

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

Acute inhalation toxicity : LC50 (Rat): > 31.86 mg/l

Exposure time: 4 h Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Causes skin irritation.

**Components:** 

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species : Rabbit

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Method : OECD Test Guideline 404

Result : Skin irritation

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species : Rabbit Result : Skin irritation

Remarks : Based on data from similar materials

Titanium dioxide:

Species : Rabbit

Result : No skin irritation

n-Hexane:

Species : Rabbit Result : Skin irritation

Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

**Components:** 

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species : Rabbit

Result : No eye irritation

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Titanium dioxide:

Species : Rabbit

Result : No eye irritation

n-Hexane:

Species : Rabbit

Result : No eye irritation

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

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### **Components:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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

#### Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

Remarks : Based on data from similar materials

Titanium dioxide:

Test Type : Local lymph node assay (LLNA)

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

n-Hexane:

Test Type : Local lymph node assay (LLNA)

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

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

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

## Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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

Result: negative

according to the Hazardous Products Regulations



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Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (vapor)

Method: OPPTS 870.5395

Result: negative

Propane:

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

Result: negative

Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

**Butane:** 

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

Remarks: Based on data from similar materials

Titanium dioxide:

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

Result: negative

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Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse Result: negative

n-Hexane:

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

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

Species: Mouse

Application Route: inhalation (vapor)

Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Remarks: Based on data from similar materials

#### Carcinogenicity

Not classified based on available information.

#### **Components:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species: MouseApplication Route: Skin contactExposure time: 102 weeksResult: negative

Titanium dioxide:

Species : Rat

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 Years

Method : OECD Test Guideline 453

Result : positive

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

mans.

This substance(s) is not bioavailable and therefore does not

contribute to a dust inhalation hazard.

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in inhalation studies with

animals.

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n-Hexane:

Species : Mouse

Application Route : inhalation (vapor)

Exposure time : 2 Years

Method : OECD Test Guideline 451

Result : negative

Remarks : Based on data from similar materials

Reproductive toxicity

Suspected of damaging fertility.

**Components:** 

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 fetal 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

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Effects on fertility : Test Type: Two-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

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 fetal development : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

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> Application Route: inhalation (gas) Method: OECD Test Guideline 422

Result: negative

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Remarks: Based on data from similar materials

**Butane:** 

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 fetal development : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Application Route: inhalation (gas) Method: OECD Test Guideline 422

Result: negative

n-Hexane:

Effects on fertility : Test Type: Fertility/early embryonic development

Application Route: inhalation (vapor)

Result: positive

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

Species: Mouse

Application Route: inhalation (vapor)

Result: negative

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on sexual function and

fertility, based on animal experiments.

STOT-single exposure

May cause drowsiness or dizziness.

May displace oxygen and cause rapid suffocation.

according to the Hazardous Products Regulations



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**Components:** 

Isobutane:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Assessment : May cause drowsiness or dizziness.

Propane:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Assessment : May cause drowsiness or dizziness.

**Butane:** 

Assessment : May cause drowsiness or dizziness.

n-Hexane:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

**Components:** 

n-Hexane:

Routes of exposure : inhalation (vapor)
Target Organs : Central nervous system

Assessment : May cause damage to organs through prolonged or repeated

exposure.

Repeated dose toxicity

**Components:** 

Isobutane:

Species : Rat
NOAEL : 9000 ppm
Application Route : inhalation (gas)
Exposure time : 6 Weeks

Method : OECD Test Guideline 422

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species : Rat NOAEL : > 20 mg/l

Application Route : inhalation (vapor)

Exposure time : 13 Weeks

according to the Hazardous Products Regulations



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Propane:

**Species** Rat NOAEL 7.214 mg/l Application Route : inhalation (gas) 6 Weeks

Exposure time :

: OECD Test Guideline 422 Method

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

**Species** Rat NOAEL 12.47 mg/l : Application Route Inhalation Exposure time 90 Davs

Remarks Based on data from similar materials

**Butane:** 

**Species** Rat 9000 ppm NOAEL Application Route : inhalation (gas) Exposure time 6 Weeks

Method **OECD Test Guideline 422** 

Titanium dioxide:

**Species** Rat

NOAEL 24,000 mg/kg Application Route Ingestion Exposure time 28 Days

**Species** Rat NOAEL : 10 mg/m<sup>3</sup>

Application Route : inhalation (dust/mist/fume)

Exposure time 2 y

n-Hexane:

**Species** Mouse LOAEL 1.76 mg/l

: Application Route inhalation (vapor)

Exposure time 13 Weeks

**Species** Rat. male NOAEL 568 mg/kg LOAEL : 3,973 mg/kg Application Route : Ingestion Exposure time 90 Days

#### **Aspiration toxicity**

Not classified based on available information.

according to the Hazardous Products Regulations



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#### **Components:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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.

#### Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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.

#### n-Hexane:

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:**

#### n-Hexane:

Inhalation : Target Organs: Central nervous system

Symptoms: Central nervous system depression

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### **Components:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 4.5 mg/l

Exposure time: 48 h

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

na/l

Exposure time: 72 h

according to the Hazardous Products Regulations



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Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

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

Toxicity to daphnia and other : aquatic invertebrates (Chron-

Exposure time: 21 d

Method: OECD Test Guideline 211

ic toxicity) Method: OECD Tes

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 13.4 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 3 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EL50 (Selenastrum capricornutum (green algae)): > 10 - 100

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0.1 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 daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.17 mg/l

Exposure time: 21 d

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

Titanium dioxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l

Exposure time: 72 h

according to the Hazardous Products Regulations



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Toxicity to microorganisms : EC50: > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

n-Hexane:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.5 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 3.88 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOEL (Pseudokirchneriella subcapitata (green algae)): 30

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

#### Persistence and degradability

#### Components:

Isobutane:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 385.5 h

Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 77.05 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Propane:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 385.5 h

Remarks: Based on data from similar materials

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Biodegradability : Result: Readily biodegradable.

according to the Hazardous Products Regulations



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Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

Butane:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 385.5 h

Remarks: Based on data from similar materials

n-Hexane:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

**Bioaccumulative potential** 

**Components:** 

Isobutane:

Partition coefficient: n-

octanol/water

log Pow: 2.8

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Partition coefficient: n- : log Pow: 4

octanol/water Remarks: Based on data from similar materials

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Partition coefficient: n- : log Pow: > 4

octanol/water Remarks: Based on data from similar materials

**Butane:** 

Partition coefficient: n-

log Pow: 2.31

octanol/water

n-Hexane:

Partition coefficient: n-

: log Pow: 4

octanol/water

Mobility in soil

No data available

Other adverse effects

No data available

according to the Hazardous Products Regulations



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#### **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. 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 : 203

aircraft)

Packing instruction (passen:

203

ger aircraft)

**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

according to the Hazardous Products Regulations



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#### 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 : no

#### 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**

#### 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)

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

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

according to the Hazardous Products Regulations



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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

Data Sheet

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

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

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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

CA / Z8