SAFETY DATA SHEET
according to the Hazardous Products Regulations

CU 800 COPPER ANTI-SIEZE SPRAY, 312 g

Version	Revision Date:	SDS Number:	Date of last issue: 07/03/2025
3.0	08/01/2025	11389723-00003	Date of first issue: 05/16/2024

SECTION 1. IDENTIFICATION

Product name : CU 800 COPPER ANTI-SIEZE SPRAY, 312 g
Product code : 893.800002
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

Recommended use : Anti-friction agent and lubricant

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Aerosols : Category 1

Eye irritation : Category 2A

Specific target organ toxicity - single exposure : Category 3

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

Precautionary Statements :

Prevention:

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 eye protection and face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.
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.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical attention.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C (122 °F).

Disposal:

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

Other hazards

Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Acetone	2-Propanone	67-64-1	>= 10 - < 30 *
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics	Naphtha (petroleum), hydrotreated light	64742-49-0	>= 10 - < 30 *
Propane	Dimethylmethane	74-98-6	>= 10 - < 30 *
Copper metal powder	No data available	7440-50-8	>= 5 - < 10 *
Heptane	n-Heptane	142-82-5	>= 5 - < 10 *

Distillates (petroleum), solvent-dewaxed heavy paraffinic	No data available	64742-65-0	>= 5 - < 10 *
Paraffin oils (petroleum), catalytic dewaxed light	Baseoil - unspecified	64742-71-8	>= 5 - < 10 *
Isobutane	Propane, 2-methyl-	75-28-5	>= 5 - < 10 *

* 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 advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove 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.
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 serious eye irritation.
May cause drowsiness or dizziness.
Prolonged or repeated contact may dry skin and cause irritation.

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 : Flash back possible over considerable distance.

fighting		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 products	:	Carbon oxides
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 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 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/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 absorbent. 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. Avoid breathing 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 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.
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
Recommended storage temperature	:	< 40 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Acetone	67-64-1	TWA	500 ppm 1,200 mg/m³	CA AB OEL
		STEL	750 ppm	CA AB OEL

			1,800 mg/m³	
		TWA	250 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWAEV	250 ppm	CA QC OEL
		STEV	500 ppm	CA QC OEL
		TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics	64742-49-0	TWA (Mist)	5 mg/m³	CA AB OEL
		STEL (Mist)	10 mg/m³	CA AB OEL
Propane	74-98-6	TWA	1,000 ppm	CA AB OEL
Copper metal powder	7440-50-8	TWA (Dust and mist)	1 mg/m³ (Copper)	CA AB OEL
		TWA (Fumes)	0.2 mg/m³	CA AB OEL
		TWAEV (dusts and mists)	1 mg/m³ (Copper)	CA QC OEL
		TWAEV (Fumes)	0.2 mg/m³ (Copper)	CA QC OEL
		TWA (Dust and mists)	1 mg/m³ (Copper)	CA BC OEL
		TWA (Fumes)	0.2 mg/m³ (Copper)	CA BC OEL
		TWA (Dust and mist)	1 mg/m³ (Copper)	ACGIH
		TWA (Fumes)	0.2 mg/m³ (Copper)	ACGIH
Heptane	142-82-5	TWA	400 ppm 1,640 mg/m³	CA AB OEL
		STEL	500 ppm 2,050 mg/m³	CA AB OEL
		TWAEV	400 ppm	CA QC OEL
		STEV	500 ppm	CA QC OEL
		TWA	400 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	TWA (Mist)	5 mg/m³	CA AB OEL
		STEL (Mist)	10 mg/m³	CA AB OEL
		TWAEV (Mist - Inhalable dust)	5 mg/m³	CA QC OEL
		TWA (Mist)	1 mg/m³	CA BC OEL
		TWA (Inhalable particulate matter)	5 mg/m³	ACGIH
Paraffin oils (petroleum), catalytic dewaxed light	64742-71-8	TWAEV (Mist - Inhalable	5 mg/m³	CA QC OEL

		dust)		
Isobutane	75-28-5	TWA	1,000 ppm	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		STEV	1,000 ppm	CA QC OEL
		STEL	1,000 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Acetone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	25 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.

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. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. 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).
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. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Aerosol containing a liquefied gas
Propellant	:	Propane, Isobutane
Color	:	brown
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	:	57 °C
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	12.8 %(V)
Lower explosion limit / Lower flammability limit	:	1.0 %(V)
Vapor pressure	:	2.757 - 4.137 hPa (20 °C)
Relative vapor density	:	Not applicable
Relative density	:	0.852
Solubility(ies)		
Water solubility	:	partly soluble
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available

Viscosity
Viscosity, kinematic : < 14 mm²/s

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 reactions : 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.

Components:

Acetone:

Acute oral toxicity : LD50 (Rat): 5,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): 76 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): 7,426 mg/kg

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity	:	LC50 (Rat): > 4,951 mg/m³ Exposure time: 4 h Test atmosphere: vapor Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rabbit): > 3,160 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

Propane:

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

Copper metal powder:

Acute oral toxicity	:	LD50 (Rat, male): > 2,000 mg/kg Method: OECD Test Guideline 423 Remarks: The test was conducted according to guideline Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 5.11 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Remarks: The test was conducted according to guideline
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: The test was conducted according to guideline

Heptane:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 73.5 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 Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

Isobutane:

Acute inhalation toxicity : LC50 (Mouse): 260200 ppm
Exposure time: 4 h
Test atmosphere: gas

Skin corrosion/irritation

Not classified based on available information.

Components:

Acetone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Species : Rabbit
Result : Mild skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Copper metal powder:

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

Heptane:

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

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species	:	Rabbit
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Acetone:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Copper metal powder:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	The test was conducted according to guideline Based on data from similar materials

Heptane:

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

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.

Components:

Acetone:

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

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	negative
Remarks	:	Based on data from similar materials

Copper metal powder:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	The test was conducted according to guideline

Heptane:

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

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Acetone:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Result: negative Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion 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

Copper metal powder:

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: Directive 67/548/EEC, Annex V, B.12.
Result: negative
Remarks: The test was conducted according to guideline
Based on data from similar materials

Heptane:

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
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : 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

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

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
Remarks: Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
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: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
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

Carcinogenicity

Not classified based on available information.

Components:

Acetone:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	424 days
Result	:	negative

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	105 weeks
Result	:	negative
Remarks	:	Based on data from similar materials

Heptane:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	2 Years
Result	:	negative
Remarks	:	Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	78 weeks
Method	:	OECD Test Guideline 451
Result	:	negative

Paraffin oils (petroleum), catalytic dewaxed light:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	78 weeks
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:

Acetone:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion 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 Application Route: inhalation (gas) Method: OECD Test Guideline 422 Result: negative

Copper metal powder:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative Remarks: The test was conducted according to guideline Based on data from similar materials
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rabbit Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative Remarks: The test was conducted according to guideline

Based on data from similar materials

Heptane:

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: Embryo-fetal development
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Based on data from similar materials

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

STOT-single exposure

May cause drowsiness or dizziness.

Components:

Acetone:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Assessment : May cause drowsiness or dizziness.

Propane:

Assessment : May cause drowsiness or dizziness.

Heptane:

Assessment : May cause drowsiness or dizziness.

Isobutane:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Acetone:

Species	:	Rat
NOAEL	:	900 mg/kg
LOAEL	:	1,700 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Species	:	Rat
NOAEL	:	45 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	8 Weeks

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Species	:	Rat
NOAEL	:	10,186 mg/m³
Application Route	:	inhalation (vapor)
Exposure time	:	13 Weeks

Propane:

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

Heptane:

Species	:	Rat
NOAEL	:	12.35 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	90 Days

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species	:	Rabbit
NOAEL	:	1,000 mg/kg
Application Route	:	Skin contact
Exposure time	:	4 Weeks
Method	:	OECD Test Guideline 410
Remarks	:	Based on data from similar materials

Species	:	Rat
NOAEL	:	> 980 mg/m³
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	4 Weeks

Remarks : Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Species	:	Rat
NOAEL	:	>= 2,000 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 Days
Method	:	OECD Test Guideline 411

Isobutane:

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

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

Acetone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

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.

Heptane:

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.

Paraffin oils (petroleum), catalytic dewaxed light:

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.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Acetone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5,540 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 8,800 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 79 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: 61,150 mg/l
Exposure time: 30 min
Method: ISO 8192

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 22 - 46 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)): > 1,000 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)): 1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Copper metal powder:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 0.01 - 0.1 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l
Exposure time: 48 h

		Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Ceriodaphnia dubia (water flea)): > 0.01 - 0.1 mg/l Exposure time: 7 d Remarks: Based on data from similar materials

Heptane:

Toxicity to fish	:	LC50 (Gambusia affinis (Mosquito fish)): 4,924 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 0.2 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50: > 0.1 - 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 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	:	NOEC: > 1.93 mg/l Exposure time: 10 min Method: DIN 38 412 Part 8 Remarks: Based on data from similar materials

Paraffin oils (petroleum), catalytic dewaxed light:

Toxicity to fish	:	LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia): 10 mg/l
Exposure time: 21 d
Test substance: Water Accommodated Fraction

Toxicity to microorganisms : NOEC: > 2.17 mg/l
Exposure time: 10 min

Persistence and degradability

Components:

Acetone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics ,<2% aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
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

Heptane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 %

Exposure time: 10 d

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 - 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Paraffin oils (petroleum), catalytic dewaxed light:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Isobutane:

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

Bioaccumulative potential

Components:

Acetone:

Partition coefficient: n-octanol/water : log Pow: -0.27 - -0.23

Heptane:

Partition coefficient: n-octanol/water : log Pow: 4.5

Isobutane:

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

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)	:	203
Packing instruction (passenger aircraft)	:	203

IMDG-Code

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS (Copper metal powder, Heptane)
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(Copper metal powder, Heptane)

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: 40 %

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 safety, Schedule 1, Part 1: Permissible exposure values for airborne 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 Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, 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