

SAFETY DATA SHEET

BG White Lithium Grease (Aerosol)



Section 1. Identification

GHS product identifier : BG White Lithium Grease (Aerosol)
Product code : 480V00
Other means of identification : P480-N1A5
Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Lubricants

Supplier's details : BG Products Inc.
740 S. Wichita Street
Wichita, KS, 67213, USA
www.bgprod.com
316-266-8120
msds@bgprod.com

Emergency telephone number (with hours of operation) : (800) 424-9300 (CHEMTREC: CCN656479)
24-hour telephone and/or website

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AEROSOLS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : Extremely flammable aerosol. Pressurized container: may burst if heated.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Avoid breathing dust or mist. Wash thoroughly after handling. Do not pierce or burn, even after use.
- Response** : IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
- Storage** : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 122 °F/50 °C. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.
- Hazards identified when used** : No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : P480-N1A5

Ingredient name	Synonyms	%	Identifiers
heptane	n-heptane; Heptane (n-Heptane); normal-Heptane; dipropylmethane; Normal heptane; heptane (n)	≥15 - ≤40	CAS: 142-82-5
Petroleum gases, liquefied, sweetened	Petroleum gas; Petroleum products, liquefied gas, sweetened; PETROLEUM GASES, LIQUIFIED, SWEETENED PETROLEUM; PROPANE/ISOBUTANE(1); Petroleum gases, liquefied, sweetened, Petroleum gas; LPG, SWEETENED	≥15 - ≤40	CAS: 68476-86-8
acetone	propan-2-one; propanone; 2-Propanone; Ketone propane; Dimethyl ketone; β-ketonepropane; acetone; dimethylketone; methyl ketone; pyroacetic acid; pyroacetic ether; dimethylformaldehyde; Acetone (I); 2-Propanone (I); 2-OXOPROPANE; BETA-KETOPROPANE; 2-Propanon, -e	≥3 - ≤7	CAS: 67-64-1
zinc oxide		≥3 - ≤7	CAS: 1314-13-2
titanium dioxide	Titanium oxide; Titanium oxide (TiO ₂); CI 77891; Titanium peroxide; Rutile; C.I. Pigment	≥0.1 - ≤1	CAS: 13463-67-7

Section 3. Composition/information on ingredients

	<p>White 6; titanium dioxide coated with isopropoxytitanium triisostearate, containing by weight 1,5 % or more but not more than 2,5 % of isopropoxytitanium triisostearate; glass flakes (CAS RN 65997-17-3): — of a thickness of 0,3 µm or more but not more than 10 µm, and — coated with titanium dioxide (CAS RN 13463-67-7) or iron oxide (CAS RN 18282- 10-5); titanium dioxide, other than those of heading 3206 11 00; C.I. 77891; E 171; titanium(IV) oxide, other than those of heading 3206 11 00</p>		
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Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptane	<p>NIOSH REL (United States, 10/2020) TWA 10 hours: 85 ppm. TWA 10 hours: 350 mg/m³. CEIL 15 minutes: 440 ppm. CEIL 15 minutes: 1800 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 2000 mg/m³. STEL 15 minutes: 500 ppm. TWA 8 hours: 1600 mg/m³. TWA 8 hours: 400 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 500 ppm. TWA 8 hours: 2000 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 400 ppm. TWA 8 hours: 1600 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2000 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) [heptane] Ototoxicant. TWA 8 hours: 200 ppm. STEL 15 minutes: 400 ppm.</p>
Petroleum gases, liquefied, sweetened acetone	<p>None.</p> <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 250 ppm. TWA 10 hours: 590 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 1780 mg/m³. STEL 15 minutes: 750 ppm. C: 3000 ppm. TWA 8 hours: 1200 mg/m³. TWA 8 hours: 500 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 2400 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 750 ppm. TWA 8 hours: 1800 mg/m³. STEL 15 minutes: 1000 ppm. STEL 15 minutes: 2400 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) A4. TWA 8 hours: 250 ppm. STEL 15 minutes: 500 ppm.</p>
zinc oxide	<p>NIOSH REL (United States, 10/2020) TWA 10 hours: 5 mg/m³. Form: Dust and fumes. STEL 15 minutes: 10 mg/m³. Form: Fume. CEIL: 15 mg/m³. Form: Dust.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 15 mg/m³. Form: Total dust. TWA 8 hours: 5 mg/m³. Form: Respirable fraction. TWA 8 hours: 5 mg/m³. Form: Fume.</p> <p>OSHA PEL 1989 (United States, 3/1989) [Zinc oxide fume] TWA 8 hours: 5 mg/m³. Form: Fume. STEL 15 minutes: 10 mg/m³. Form: Fume.</p>

Section 8. Exposure controls/personal protection

titanium dioxide

OSHA PEL 1989 (United States, 3/1989)
[Zinc oxide]

TWA 8 hours: 10 mg/m³. Form: Total dust.
 TWA 8 hours: 5 mg/m³. Form: Respirable fraction.

ACGIH TLV (United States, 1/2022)

TWA 8 hours: 2 mg/m³. Form: Respirable fraction.

STEL 15 minutes: 10 mg/m³. Form: Respirable fraction.

CAL OSHA PEL (United States, 1/2025)

TWA 8 hours: 5 mg/m³. Form: respirable fraction.

TWA 8 hours: 10 mg/m³. Form: total dust.
 STEL 15 minutes: 10 mg/m³. Form: fumes.
 TWA 8 hours: 5 mg/m³. Form: fumes.

NIOSH REL (United States, 10/2020) NIA.

CAL OSHA PEL (United States, 1/2025)

TWA 8 hours: 5 mg/m³ (as Ti). Form: respirable fraction.

TWA 8 hours: 10 mg/m³ (as Ti). Form: total dust.

OSHA PEL (United States, 5/2018)

TWA 8 hours: 15 mg/m³. Form: Total dust.

OSHA PEL 1989 (United States, 3/1989)

TWA 8 hours: 10 mg/m³. Form: Total dust.

ACGIH TLV (United States, 1/2025) A3.

TWA 8 hours: 2.5 mg/m³. Form: respirable fraction, finescale particles.

Biological exposure indices

Ingredient name	Exposure indices
acetone	ACGIH BEI (United States, 1/2025) BEI: 25 mg/l, acetone [in urine]. Sampling time: end of shift.

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Aerosol.]
- Color** : Off-white.
- Odor** : Solvents
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: -96.4°C (-141.5°F) [ASTM D 7094-04]
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : 0.768
- Solubility(ies)** :

Media	Result
water	Not soluble

- Solubility in water** : Not available.
- Miscible with water** : No.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Heat of combustion** : 21.56 kJ/g

Section 9. Physical and chemical properties

Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.
Flow time (ISO 2431)	: Not available.
Particle characteristics	
Median particle size	: Not applicable.
Aerosol product	
Type of aerosol	: Spray

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name

heptane

Result

Rat - Oral - LD50

5000 mg/kg

Rabbit - Dermal - LD50

2000 mg/kg

Rat - Inhalation - LC50 Vapor

103 g/m³ [4 hours]

Rat - Inhalation - LC50 Gas.

48000 ppm [4 hours]

Rat - Inhalation - LC50 Dusts and mists

73.5 mg/l [4 hours]

acetone

Rat - Oral - LD50

5800 mg/kg

Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor

Rabbit - Dermal - LD50

20000 mg/kg

Rat - Inhalation - LC50 Vapor

76 mg/l [4 hours]

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

Result

Section 11. Toxicological information

acetone	Rabbit - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 500 mg
zinc oxide	Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 395 mg Rabbit - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 500 mg
titanium dioxide	Human - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 72 hours <u>Amount/concentration applied:</u> 300 ug l

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Product/ingredient name	Result
acetone	Human - Eyes - Mild irritant <u>Amount/concentration applied:</u> 186300 ppm Rabbit - Eyes - Mild irritant <u>Amount/concentration applied:</u> 10 uL Rabbit - Eyes - Moderate irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 20 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 20 mg
zinc oxide	Rabbit - Eyes - Mild irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 500 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Section 11. Toxicological information

Conclusion/Summary [Product] : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
heptane	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
acetone	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
heptane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact	: Causes serious eye irritation.
Inhalation	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Causes skin irritation.
Ingestion	: Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	: Adverse symptoms may include the following: irritation redness

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
heptane	5000	N/A	48000	103	73.5
acetone	5800	20000	N/A	76	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

heptane

Result

Acute - LC50 - Fresh water

Fish - Mozambique tilapia - *Oreochromis mossambicus*

Size: 99 mm; Weight: 10 g

375 mg/l [96 hours]

Effect: Mortality

acetone

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

10 mg/l [48 hours]

Effect: Mortality

Chronic - NOEC - Marine water

Algae - Green algae - *Ulva pertusa*

4.95 mg/l [96 hours]

Effect: Reproduction

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

20.565 mg/l [96 hours]

Section 12. Ecological information

Effect: Reproduction

Chronic - NOEC - Fresh water

Crustaceans - Daphnia - *Daphniidae*

0.016 ml/l [21 days]

Effect: Population

Acute - LC50 - Fresh water

Fish - Guppy - *Poecilia reticulata*

Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g

5600 ppm [96 hours]

Effect: Mortality

Chronic - NOEC - Marine water

Fish - Threespine stickleback - *Gasterosteus aculeatus* - Larvae

Age: 7 days

5 µg/l [42 days]

Effect: Growth

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna* - Neonate

Age: <24 hours

98 µg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

US EPA

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*

Weight: 0.78 g

1.1 ppm [96 hours]

Effect: Mortality

Acute - IC50 - Fresh water

Algae - Green algae - *Raphidocelis subcapitata* - Exponential growth phase

46 µg/l [72 hours]

Effect: Population

Acute - LC50 - Marine water

Fish - Mummichog - *Fundulus heteroclitus*

>1000 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

Age: <24 hours

3 mg/l [48 hours]

Effect: Mortality

zinc oxide

titanium dioxide

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
heptane	4.66	552	High
Petroleum gases, liquefied, sweetened	1.09	-	Low
acetone	-0.23	-	Low
zinc oxide	-	28960	High

Mobility in soil

Section 12. Ecological information

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.








Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetone (l)	67-64-1	Listed	U002

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1950	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	Aerosols	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS	Aerosols, flammable
Transport hazard class(es)	2.1  	2.1 	2.1 	2 	2.1 	2.1 
Packing group	-	-	-	-	-	-
Environmental hazards	Yes.	No.	No.	No.	No.	No.

Additional information

DOT Classification

: This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

Limited quantity Yes.

Packaging instruction Exceptions: 306. Non-bulk: None. Bulk: None.

Quantity limitation Passenger aircraft/rail: 75 kg. Cargo aircraft: 150 kg.

Special provisions N82

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).

Explosive Limit and Limited Quantity Index 1

Passenger Carrying Road or Rail Index 75

Special provisions 80, 107

Section 14. Transport information

Mexico Classification	: Special provisions 63, 190, 277, 327, 344, 381
ADR/RID	: Limited quantity 1 L Special provisions 190, 327, 625, 344 Tunnel code (D)
IMDG	: Emergency schedules F-D, S-U Special provisions 63, 190, 277, 327, 344, 381, 959 Remarks Limited quantity
IATA	: The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203. Special provisions A145, A167, A802 Remarks Limited quantity

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) PAIR: heptane

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: Zinc oxide (nano); Naphthenic acids, zinc salts

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : AEROSOLS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

Section 15. Regulatory information

Composition/information on ingredients

Name	%	Classification
heptane	≥15 - ≤40	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Petroleum gases, liquefied, sweetened	≥15 - ≤40	ASPIRATION HAZARD - Category 1 FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas
acetone	≥3 - ≤7	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Zinc oxide (nano)	1314-13-2	≥3 - ≤7
Supplier notification	Zinc oxide (nano)	1314-13-2	≥3 - ≤7

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: HEPTANE; ACETONE; ZINC OXIDE FUME
- New York** : The following components are listed: Acetone
- New Jersey** : The following components are listed: n-HEPTANE; ACETONE; ZINC OXIDE
- Pennsylvania** : The following components are listed: HEPTANE; 2-PROPANONE; ZINC OXIDE FUME
- California Prop. 65**

⚠ WARNING: This product can expose you to chemicals including Titanium Dioxide, (CAS # 13463-67-7), must be airborne, unbound, and of a particle size < 10 micrometers in diameter to be considered a Proposition 65 chemical. For this product, Titanium Dioxide is bound in the product and no inhalation exposure will occur during the handling or use of this product in this application. Titanium Dioxide for this application is not considered a Proposition 65 chemical.. NO warning for Titanium Dioxide as a Proposition 65 chemical is required. and Titanium dioxide, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : Not determined.
- Eurasian Economic Union** : **Russian Federation inventory:** All components are listed or exempted.

Section 15. Regulatory information

Japan	: Japan inventory (CSCL): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.
New Zealand	: Not determined.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: At least one component is not listed.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are active or exempted.
Viet Nam	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		4
Physical hazards		1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
AEROSOLS - Category 1	Calculation method
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Weight of evidence
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

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Section 16. Other information

Key to abbreviations

- : ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

References

- : Not available.

📌 Indicates information that has changed from previously issued version.

Notice to reader

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