

SAFETY DATA SHEET

ZINC 100 AEROSOL

Section 1. Identification

GHS product identifier : ZINC 100
Product code : 53-H 102 (400 mL)
SDS no. : L-54E
Product type : Aerosol

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

Identified uses : Bright galvanizing spray.

Manufacturer : Walter Surface Technologies Inc.
 5977 Trans Canada Highway
 Pointe-Claire, QC H9R 1C1
 Canada
 info@walter.com
 www.walter.com
 General Information: 1-888-592-5837

Emergency telephone number (with hours of operation) : INFOTRAC® 1-800-535-5053. International call collect: 1-352-323-3500
 24 hours/day, 7 days/week.

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 : FLAMMABLE AEROSOLS - Category 1
 GASES UNDER PRESSURE - Compressed gas
 SKIN CORROSION/IRRITATION - Category 2
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 TOXIC TO REPRODUCTION (Unborn child) - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bladder, hearing organs, kidneys, liver, respiratory system) - Category 2
 AQUATIC HAZARD (ACUTE) - Category 1
 AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Section 2. Hazards identification

Hazard statements	<ul style="list-style-type: none"> : H222 - Extremely flammable aerosol. H280 - Contains gas under pressure; may explode if heated. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H361 - Suspected of damaging the unborn child. H351 - Suspected of causing cancer. H336 - May cause drowsiness or dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. (bladder, hearing organs, kidneys, liver, respiratory system) H410 - Very toxic to aquatic life with long lasting effects.
<u>Precautionary statements</u>	
Prevention	<ul style="list-style-type: none"> : P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. 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. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P260 - Do not breathe dust or mist. P264 - Wash hands thoroughly after handling. P251 - Pressurized container: Do not pierce or burn, even after use.
Response	<ul style="list-style-type: none"> : P391 - Collect spillage. P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Storage	<ul style="list-style-type: none"> : P405 - Store locked up. P410 - Protect from sunlight. P412 - Do not expose to temperatures exceeding 50°C/122°F. P403 - Store in a well-ventilated place.
Disposal	<ul style="list-style-type: none"> : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	<ul style="list-style-type: none"> : None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Product code	: 53-H 102 (400 mL)

Ingredient name	%	CAS number
Butanone	10 - 30	78-93-3
Acetone	10 - 30	67-64-1
Zinc powder - zinc dust (stabilized)	10 - 30	7440-66-6
Toluene	10 - 30	108-88-3
4-Hydroxy-4-methylpentan-2-one	1 - 5	123-42-2
Xylene	1 - 5	1330-20-7
Ethylbenzene	0.1 - 1	100-41-4

Section 3. Composition/information on ingredients

United States: The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

Canada: The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment 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. Continue to rinse for at least 20 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. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

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.

Over-exposure signs/symptoms

- 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
reduced fetal weight
increase in fetal deaths

Section 4. First aid measures

- Skin contact** : skeletal malformations
: Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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** : In case of fire, use foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media** : Do not use water jet.
- 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. This material is very toxic to aquatic life with long lasting effects. 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. Collect spillage.

Methods and materials for containment and cleaning up

- 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. 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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Section 7. Handling and storage

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. Protect from sunlight. 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

United States

Occupational exposure limits

Ingredient name	Exposure limits
Butanone	<p>ACGIH TLV (United States, 3/2017). TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 6/2016). TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.</p>
Acetone	<p>ACGIH TLV (United States, 3/2017). TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.</p>
Zinc powder - zinc dust (stabilized) Toluene	<p>None.</p> <p>OSHA PEL Z2 (United States, 2/2013). TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes.</p> <p>ACGIH TLV (United States, 3/2017). TWA: 20 ppm 8 hours.</p>
4-Hydroxy-4-methylpentan-2-one	<p>ACGIH TLV (United States, 3/2017). TWA: 50 ppm 8 hours. TWA: 238 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2016). TWA: 50 ppm 10 hours. TWA: 240 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 50 ppm 8 hours. TWA: 240 mg/m³ 8 hours.</p>
Xylene	<p>ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 6/2016). TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.</p>
Ethylbenzene	<p>ACGIH TLV (United States, 3/2017). TWA: 20 ppm 8 hours.</p>

Section 8. Exposure controls/personal protection

NIOSH REL (United States, 10/2016).
 TWA: 100 ppm 10 hours.
 TWA: 435 mg/m³ 10 hours.
 STEL: 125 ppm 15 minutes.
 STEL: 545 mg/m³ 15 minutes.
OSHA PEL (United States, 6/2016).
 TWA: 100 ppm 8 hours.
 TWA: 435 mg/m³ 8 hours.

Canada

Occupational exposure limits

Ingredient name	Exposure limits
Butanone	<p>CA Alberta Provincial (Canada, 4/2009). 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. CA British Columbia Provincial (Canada, 7/2016). TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. CA Ontario Provincial (Canada, 7/2015). TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. CA Quebec Provincial (Canada, 1/2014). TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.</p>
Acetone	<p>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. CA British Columbia Provincial (Canada, 7/2016). TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. CA Ontario Provincial (Canada, 7/2015). TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. CA Quebec Provincial (Canada, 1/2014). TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.</p>
Toluene	<p>CA Alberta Provincial (Canada, 4/2009). Absorbed through skin. 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 7/2016). TWA: 20 ppm 8 hours. CA Ontario Provincial (Canada, 7/2015). TWA: 20 ppm 8 hours. CA Quebec Provincial (Canada, 1/2014). Absorbed through skin. TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin. STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
4-Hydroxy-4-methylpentan-2-one	<p>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 238 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 7/2016).</p>

Section 8. Exposure controls/personal protection

Xylene	<p>TWA: 50 ppm 8 hours. CA Ontario Provincial (Canada, 7/2015). TWA: 50 ppm 8 hours. CA Quebec Provincial (Canada, 1/2014). TWA: 50 ppm 8 hours. TWA: 238 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
Ethylbenzene	<p>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 100 ppm 8 hours. 15 min OEL: 651 mg/m³ 15 minutes. 15 min OEL: 150 ppm 15 minutes. 8 hrs OEL: 434 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 7/2016). TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes. CA Quebec Provincial (Canada, 1/2014). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEV: 150 ppm 15 minutes. STEV: 651 mg/m³ 15 minutes. CA Ontario Provincial (Canada, 7/2015). STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.</p> <p>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 100 ppm 8 hours. 8 hrs OEL: 434 mg/m³ 8 hours. 15 min OEL: 543 mg/m³ 15 minutes. 15 min OEL: 125 ppm 15 minutes. CA British Columbia Provincial (Canada, 7/2016). TWA: 20 ppm 8 hours. CA Ontario Provincial (Canada, 7/2015). TWA: 20 ppm 8 hours. CA Quebec Provincial (Canada, 1/2014). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEV: 125 ppm 15 minutes. STEV: 543 mg/m³ 15 minutes. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours.</p>

- Appropriate engineering controls** : No personal respiratory protective equipment normally required. Avoid breathing dust/fume/gas/mist/vapors/spray. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
- 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.
 - 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.
Recommended: Nitrile gloves. (Permeation time > 8 hours)
- 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** : Use a NIOSH/MSHA approved respirator if there is a risk of exposure at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid. [Aerosol.]
- Color** : Aluminum.
- Odor** : Aromatic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : 57 to 168°C (134.6 to 334.4°F)
- Flash point** : Closed cup: <-18°C (<-0.4°F)
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Lower: 1%
Upper: 12.8%
- Vapor pressure** : 275.8 to 344.7 kPa (2068.4 to 2585.5 mm Hg) [room temperature]
- Vapor density** : >1 [Air = 1]
- Relative density** : 0.79 to 0.83 g/ml @ 20°C (68°F)
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 465 to 527°C (869 to 980.6°F)
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.
- VOC content** : 64-65%
- Aerosol product**
- Type of aerosol** : Spray
- Heat of combustion** : 29.83 kJ/g

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** : Reactive or incompatible with the following materials: oxidizing materials.
- 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	Result	Species	Dose	Exposure
Butanone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
4-Hydroxy-4-methylpentan-2-one	LD50 Dermal	Rabbit	13500 mg/kg	-
	LD50 Oral	Rat	2520 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
Acetone	Eyes - Mild irritant	Rabbit	-	10 µl	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Toluene	Skin - Mild irritant	Rabbit	-	395 mg	-
	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant	Rabbit	-	870 µg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 µl	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
4-Hydroxy-4-methylpentan-2-one	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 100 µl	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µl	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100%	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-

Sensitization

There is no data available.

Section 11. Toxicological information

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Ethylbenzene	-	2B	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Target organs
Butanone	Category 3	Narcotic effects
Acetone	Category 3	Narcotic effects
Toluene	Category 3	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Target organs
Toluene	Category 2	bladder, hearing organs, kidneys, liver and respiratory system
Ethylbenzene	Category 2	hearing organs

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

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.

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

Section 11. Toxicological information

- reduced fetal weight
- increase in fetal deaths
- skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 - irritation
 - redness
 - reduced fetal weight
 - increase in fetal deaths
 - skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 - reduced fetal weight
 - increase in fetal deaths
 - skeletal malformations

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

Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Suspected of damaging the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	12071.5 mg/kg
Dermal	32339.4 mg/kg
Inhalation (gases)	146997.4 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure	
Butanone	Acute EC50 >500000 µg/L Marine water	Algae - Skeletonema costatum	96 hours	
	Acute EC50 5091000 µg/L Fresh water	Daphnia - Daphnia magna - Larvae	48 hours	
Acetone	Acute LC50 3220000 µg/L Fresh water	Fish - Pimephales promelas	96 hours	
	Acute EC50 7200000 µg/L Fresh water	Algae - Selenastrum sp.	96 hours	
	Acute LC50 6000000 µg/L Fresh water	Crustaceans - Gammarus pulex	48 hours	
	Acute LC50 6900 mg/L Fresh water	Daphnia - Daphnia magna	48 hours	
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours	
	Chronic NOEC 4.95 mg/L Marine water	Algae - Ulva pertusa	96 hours	
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days	
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days	
	Zinc powder - zinc dust (stabilized)	Acute EC50 106 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
		Acute EC50 10000 µg/L Fresh water	Aquatic plants - Lemna minor	4 days
Acute IC50 65 µg/L Marine water		Algae - Nitzschia closterium - Exponential growth phase	4 days	
Acute LC50 65 µg/L Fresh water		Crustaceans - Ceriodaphnia dubia - Neonate	48 hours	
Acute LC50 68 µg/L Fresh water		Daphnia - Daphnia magna	48 hours	
Acute LC50 12.21 µg/L Marine water		Fish - Periophthalmus waltoni - Adult	96 hours	
Chronic EC10 27.3 µg/L Fresh water		Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours	
Chronic EC10 59.2 µg/L Fresh water		Daphnia - Daphnia magna	21 days	
Chronic NOEC 9 mg/L Fresh water		Aquatic plants - Ceratophyllum demersum	3 days	
Chronic NOEC 178 µg/L Marine water		Crustaceans - Palaemon elegans	21 days	
Toluene	Chronic NOEC 2.6 µg/L Fresh water	Fish - Cyprinus carpio	4 weeks	
	Acute EC50 11600 µg/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours	
	Acute EC50 6000 µg/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours	
	Chronic NOEC 2 mg/L Fresh water	Daphnia - Daphnia magna	21 days	
4-Hydroxy-4-methylpentan-2-one	Acute LC50 420000 µg/L Marine water	Fish - Menidia beryllina	96 hours	
	Acute EC50 13300 µg/L Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours	
	Acute LC50 13900 µg/L Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	
Ethylbenzene				

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Butanone	0.3	-	low
Acetone	-0.23	-	low
Toluene	2.73	90	low
4-Hydroxy-4-methylpentan-2-one	-0.14 to 1.03	-	low
Xylene	3.12	8.1 to 25.9	low
Ethylbenzene	3.6	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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 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.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetone	67-64-1	Listed	U002
Butanone	78-93-3	Listed	U159
Toluene	108-88-3	Listed	U220
Xylene	1330-20-7	Listed	U239

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	Aerosols, flammable (each not exceeding 1 L capacity)	Aerosols, flammable (each not exceeding 1 L capacity)	Aerosols, flammable (each not exceeding 1 L capacity). Marine pollutant (Zinc powder - zinc dust (stabilized))	Aerosols, flammable (each not exceeding 1 L capacity)
Transport hazard class(es)	2.1 	2.1  	2.1  	2.1 
Packing group	-	-	-	-
Environmental hazards	No.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

AERG : 126

DOT-RQ Details : Xylene 100 lbs / 45.4 kg [13.946 gal / 52.791 L]
Zinc powder - zinc dust (stabilized) 1000 lbs / 454 kg

Additional information

DOT Classification : **Reportable quantity** 2442.2 lbs / 1108.8 kg [361.61 gal / 1368.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Section 14. Transport information

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. Protect from freezing. Freezing will damage product and render it unusable.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR:** 4-Hydroxy-4-methylpentan-2-one
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: Zinc powder - zinc dust (stabilized); Toluene; Ethylbenzene
Clean Water Act (CWA) 311: Toluene; Xylene; Ethylbenzene
Clean Air Act (CAA) 112 regulated flammable substances: Isobutane; Propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : 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) : Listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification

: FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bladder, hearing organs, kidneys, liver, respiratory system) - Category 2

Section 15. Regulatory information

Composition/information on ingredients

Name	Classification
Butanone	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Acetone	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Toluene	FLAMMABLE LIQUIDS - Category 2 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
4-Hydroxy-4-methylpentan-2-one	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bladder, hearing organs, kidneys, liver, respiratory system) - Category 2 ASPIRATION HAZARD - Category 1
Xylene	FLAMMABLE LIQUIDS - Category 3 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
Ethylbenzene	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2
	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2 ASPIRATION HAZARD - Category 1

SARA 313

	Product name	CAS number
Form R - Reporting requirements	Zinc powder - zinc dust (stabilized) Toluene Xylene Ethylbenzene	7440-66-6 108-88-3 1330-20-7 100-41-4
Supplier notification	Zinc powder - zinc dust (stabilized) Toluene Xylene Ethylbenzene	7440-66-6 108-88-3 1330-20-7 100-41-4

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: Acetone; Butanone; Zinc powder - zinc dust (stabilized); Toluene; Petroleum gases, liquefied; Isobutane; Propane; Xylene; 4-Hydroxy-4-methylpentan-2-one

New York

: The following components are listed: Acetone; Butanone; Zinc powder - zinc dust (stabilized); Toluene; Xylene; Ethylbenzene

New Jersey

: The following components are listed: Acetone; Butanone; Zinc powder - zinc dust (stabilized); Toluene; Petroleum gases, liquefied; Isobutane; Propane; Xylene; Ethylbenzene; 4-Hydroxy-4-methylpentan-2-one

Pennsylvania

: The following components are listed: Acetone; Butanone; Zinc powder - zinc dust (stabilized); Toluene; Petroleum gases, liquefied; Isobutane; Propane; Xylene; Ethylbenzene; 4-Hydroxy-4-methylpentan-2-one

California Prop. 65

Section 15. Regulatory information

⚠ WARNING: This product can expose you to chemicals including Ethylbenzene, Crystalline silica, respirable powder, which are known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Canada

Canadian lists

Canadian NPRI : The following components are listed: Acetone; Butanone; Zinc powder - zinc dust (stabilized); Toluene; Isobutane; Propane; Xylene

CEPA Toxic substances : The following components are listed: Acetone

Canada inventory (DSL NDSL) : All components are listed or exempted.

International lists

National inventory

Australia : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bladder, hearing organs, kidneys, liver, respiratory system) - Category 2	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

History

Date of issue mm/dd/yyyy : 09/30/2018

Date of previous issue : 12/30/2015

Version : 2

Prepared by : KMK Regulatory Services Inc.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.