

Preparation Date: 01/01/2019

Revision Date: N/A

Revision Number: N/A

**1. IDENTIFICATION****Product identifier**

**Product code:** C1100  
**Product Name:** ACETONE, REAGENT, ACS

**Other means of identification**

**Synonyms:** beta-Ketopropane  
Dimethyl ketone  
Dimethylformaldehyde  
Dimethylketal  
Ketone propane  
Ketone, dimethyl  
Methyl ketone  
Propanone  
Pyroacetic acid  
Pyroacetic ether  
Acétone (French)  
Acetona (Spanish)  
**CAS #:** 67-64-1  
**RTECS #** AL3150000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Solvent.  
**Uses advised against** No information available

**Supplier:** **Dawn Scientific Inc**  
121 Liberty Street, Metuchen, NJ, 08840  
Tel : 732-902-6300 | Fax : 973-802-1005  
sales@dawnscientific.com | www.dawnscientific.com

**Emergency telephone number** Chemtrec 1-800-424-9300

**2. HAZARDS IDENTIFICATION****Classification**

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

## Label elements

### **Danger**

#### **Hazard statements**

Causes serious eye irritation  
Suspected of damaging fertility or the unborn child  
May cause respiratory irritation. May cause drowsiness or dizziness  
Highly flammable liquid and vapor



#### **Hazards not otherwise classified (HNOC)**

Not Applicable

#### **Other hazards**

Causes mild skin irritation  
Repeated exposure may cause skin dryness or cracking

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/.../equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Keep cool

#### **Precautionary Statements - Response**

*IF exposed or concerned: Get medical advice/attention*

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.

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/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

#### **Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>CAS-No.</b>	<b>Weight %</b>
Acetone	67-64-1	99-100.5

Benzene	71-43-2	0-0.003
Formaldehyde	50-00-0	0-0.002

#### 4. FIRST AID MEASURES

##### First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

##### Most important symptoms and effects, both acute and delayed

- Symptoms**
- Moderate eye irritation
  - Mild skin irritation
  - Nausea
  - Vomiting
  - Central nervous system effects
  - Dizziness
  - Drowsiness
  - Fatigue
  - Narcosis
  - Ataxia
  - Staggering gait
  - Headache
  - May affect respiration
  - Respiratory depression
  - May cause cardiovascular effects
  - Hypotension
  - Weak, rapid pulse or rapid heart rate (Tachycardia)
  - May cause metabolic acidosis

##### Indication of any immediate medical attention and special treatment needed

**Notes to Physician:** Treat symptomatically.

##### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing Media

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol-resistant foam. Water spray.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

##### Specific hazards arising from the chemical

<b>Hazardous Combustion Products:</b>	Carbon Monoxide, Carbon Dioxide.
<b>Specific hazards:</b>	Flammable. May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.
<b><u>Special Protective Actions for Firefighters</u></b>	
<b>Specific Methods:</b>	Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.
<b>Special Protective Equipment for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### **Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do

not smoke. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

- Oxidizing agents
- Reducing agents
- Bases
- Acids
- activated carbon
- chromium trioxide
- dioxygen difluoride + carbon dioxide
- Potassium dichromate or Sodium dichromate
- Potassium t-butoxide
- Hydrogen peroxide
- Chromic anhydride
- Chromyl chloride
- Hexachloromelamine
- Nitrosyl chloride + Platinum
- Nitrosyl chloride
- Bromine trifluoride
- Thiodiglycol
- 2,4,6-trichloro-1,3,5-triazine + water
- 2-Methyl-1,3-butadiene
- Chloroform

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Acetone	67-64-1	1000 ppm TWA 2400 mg/m <sup>3</sup> TWA	250 ppm TWA 590 mg/m <sup>3</sup> TWA	750 ppm STEL 500 ppm TWA	None
Benzene	71-43-2	10 ppm TWA 1 ppm TWA 25 ppm Ceiling 5 ppm STEL	0.1 ppm TWA 1 ppm STEL	2.5 ppm STEL 0.5 ppm TWA	None
Formaldehyde	50-00-0	0.75 ppm TWA 2 ppm STEL	0.016 ppm TWA 0.1 ppm Ceiling 15 min	0.3 ppm Ceiling	None

**Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Acetone	67-64-1	500 ppm TWA 1200 mg/m <sup>3</sup> TWA 750 ppm STEL 1800 mg/m <sup>3</sup> STEL	250 ppm TWA 500 ppm STEL	500 ppm TWA 750 ppm STEL	500 ppm TWAEV 1190 mg/m <sup>3</sup> TWAEV 1000 ppm STEV 2380 mg/m <sup>3</sup> STEV
Benzene	71-43-2	0.5 ppm TWA 1.6 mg/m <sup>3</sup> TWA 2.5 ppm STEL 8 mg/m <sup>3</sup> STEL	0.5 ppm TWA 2.5 ppm STEL	0.5 ppm TWA 2.5 ppm STEL	1 ppm TWAEV 3 mg/m <sup>3</sup> TWAEV 5 ppm STEV 15.5 mg/m <sup>3</sup> STEV
Formaldehyde	50-00-0	1 ppm Ceiling	0.3 ppm TWA	1.5 ppm Ceiling	2 ppm Ceiling

		1.3 mg/m <sup>3</sup> Ceiling 0.75 ppm TWA 0.9 mg/m <sup>3</sup> TWA	1 ppm Ceiling	1.0 ppm STEL	3 mg/m <sup>3</sup> Ceiling
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### Australia and Mexico

Components	CAS-No.	Australia	Mexico
Acetone	67-64-1	1000 ppm STEL 2375 mg/m <sup>3</sup> STEL 1185 mg/m <sup>3</sup> TWA 500 ppm TWA	1000 ppm TWA 2400 mg/m <sup>3</sup> TWA 1260 ppm STEL 3000 mg/m <sup>3</sup> STEL
Benzene	71-43-2	1.0 ppm//3.2 mg/m <sup>3</sup> TWA confirmed carcinogen	1 ppm TWA 3.2 mg/m <sup>3</sup> TWA 5 ppm STEL 16 mg/m <sup>3</sup> STEL
Formaldehyde	50-00-0	1 ppm/1.2 mg/m <sup>3</sup> TWA 2 ppm/2.5 mg/m <sup>3</sup> STEL probable carcinogen	2 ppm Ceiling 3 mg/m <sup>3</sup> Ceiling

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Chemical resistant apron  
Long sleeved clothing  
Gloves
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available.	<b>Color:</b> Clear. Colorless.
<b>Odor:</b> Fruity. Mint-like. Fragrant. Ethereal.	<b>Taste</b> Pungent. Sweetish.	<b>Formula:</b> C3-H6-O
<b>Molecular/Formula weight:</b> 58.08	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> -20 °C
<b>Flashpoint (°C/°F):</b> -20 to -17 °C/-4 to 1.4 °F -9.4 to -9 °C/15.1 to 15.8 °F	<b>Flash Point Tested according to:</b> Closed cup Open cup	<b>Autoignition Temperature (°C/°F):</b> 465 °C/869 °F
<b>Lower Explosion Limit (%):</b> 2.5-2.6%	<b>Upper Explosion Limit (%):</b> 12.8%	<b>Melting point/range(°C/°F):</b> -94.7 to -95.4 °C/-138.46 to -139.72
<b>Decomposition temperature(°C/°F):</b> No information available	<b>Boiling point/range(°C/°F):</b> 56.2 °C/133.2 °F	<b>Bulk density:</b> No information available

**Density (g/cm<sup>3</sup>):**

0.780 @ 30 °C  
 0.784 @ 25 °C  
 0.79 @ 20 °C

**Specific gravity:**

0.79 @ 20 °C

**pH:**

No information available

**Vapor pressure @ 20°C (kPa):**

24

**Evaporation rate:**

5.6 (Butyl acetate = 1)

**Vapor density:**

2.0

**VOC content (g/L):**

780-790

**Odor threshold (ppm):**

62-140

**Partition coefficient (n-octanol/water):**

- 0.24

**Viscosity:**

No information available

**Miscibility:**

Miscible with water  
 Miscible with Ether  
 Miscible with Chloroform  
 Miscible with Benzene  
 Miscible with alcohol

**Solubility:**

No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

Reactive with oxidizing agents

Reacts with reducing agents

Reactive with acids

Reacts with strong bases

Acetone ignites on contact with activated carbon, chromium trioxide, dioxygen difluoride + carbon dioxide, potassium-tert-butoxide, sulfuric acid + potassium dichromate

Acetone may form explosive mixtures with chromic anhydride, chromyl chloride, hexachloromelamine, hydrogen peroxide, nitric acid and acetic acid, nitric acid and sulfuric acid, nitrosyl chloride, nitrosyl chloride + platinum, nitrosyl perchlorate, nitryl perchlorate, permonosulfuric acid, potassium tert-butoxide, thiodiglycol, chloroform, bromine trifluoride, thiotriazyl perchlorate, 2,4,6-trichloro-1,3,5-triazine + water, 2-methyl-1,3-butadiene, peroxomonosulfuric acid

An explosion occurred during an attempt to prepare bromoform from acetone by the haloform reaction

Chloroform and acetone interact vigorously and exothermally in presence of solid potassium hydroxide or calcium hydroxide to form 1,1,1-trichloro-2-hydroxy-2-methylpropane

**Chemical stability****Stability:**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:**

Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:**

Oxidizing agents  
 Reducing agents  
 Bases  
 Acids  
 activated carbon  
 chromium trioxide  
 dioxygen difluoride + carbon dioxide  
 Potassium dichromate or Sodium dichromate  
 Potassium t-butoxide  
 Hydrogen peroxide  
 Chromic anhydride  
 Chromyl chloride  
 Hexachloromelamine  
 Nitrosyl chloride + Platinum  
 Nitrosyl chloride

Bromine trifluoride  
Thiodiglycol  
2,4,6-trichloro-1,3,5-triazine + water  
2-Methyl-1,3-butadiene  
Chloroform

**Hazardous decomposition products:** Carbon monoxide. Carbon dioxide.

**Other Information**  
**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Skin. Eyes. Inhalation.

### Acute Toxicity

#### Component Information

Acetone
CAS-No.   67-64-1

**LD50/oral/rat** = 5800 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 3 gm/kg  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 50100 mg/m<sup>3</sup> Inhalation LC50 Rat 8 h  
**LC50/inhalation/mouse** = 44 gm/m<sup>3</sup>/4H  
**Other LD50 or LC50 information** = >9400 uL/kg LD50 Dermal Guinea Pig  
5340 mg/kg LD50 Oral Rabbit

Benzene
CAS-No.   71-43-2

**LD50/oral/rat** = 810 mg/kg Oral LD50 Rat = 1800 mg/kg Oral LD50 Rat; 930-6400 mg/kg (RTECS)  
**LD50/oral/mouse** = 4700 mg/kg  
**LD50/dermal/rabbit** = >9400 mg/kg Dermal LD50 Rabbit (RTECS)  
>8200 mg/kg (LOLI)  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 13050 - 16000 ppm Inhalation LC50 Rat 4 h (EU Commission IUCLID dataset)  
44.66 mg/L Inhalation LC50 Rat 4 h (LOLI)  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = >9400 ul/kg LD50 Guinea Pig

Formaldehyde
CAS-No.   50-00-0

**LD50/oral/rat** = 500 mg/kg Oral LD50 Rat (RTECS and LOLI)  
100 mg/kg (RTECS)  
**LD50/oral/mouse** = 500 mg/kg (RTECS)  
385 mg/kg (RTECS)  
42 mg/kg (RTECS)  
**LD50/dermal/rabbit** = 270 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 0.578 mg/L Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = No information available  
Other LD50 or LC50 information = 260 mg/kg oral LD50 Guinea Pig

## Product Information

LD50/oral/rat =  
VALUE- Acute Tox Oral = 5800

LD50/oral/mouse =  
Value - Acute Tox Oral = 3000 mg/kg

LD50/dermal/rabbit  
VALUE-Acute Tox Dermal = 20000 mg/kg

LD50/dermal/rat  
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat  
VALUE-Vapor = 76 mg/l (4-hr)  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

## Symptoms

**Skin Contact:** May cause skin irritation. Mildly to moderately irritating to the skin. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects with symptoms similar to those of ingestion.

**Eye Contact:** Causes eye irritation. Moderately irritating to the eyes. May cause corneal injury.

**Inhalation** Irritating to respiratory system. May cause conjunctival irritation. May cause nausea, vomiting. May cause loss of appetite. May affect the brain. May affect the kidneys. May cause muscle weakness. May affect respiration (respiratory depression). Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unsteady gait, drowsiness, lethargy, sleepiness lightheadedness, fainting, narcosis, confusion, loss of coordination, lassitude, speech abnormalities, tremor, unconsciousness, coma. May cause metabolic acidosis. May cause other symptoms similar to those of ingestion.

**Ingestion** May cause digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. It may affect metabolism (ketosis/ketonemia/ketonuria). May cause hyperglycemia. May affect liver. May affect respiration. May affect the cardiovascular system (hypotension). May affect the cardiovascular system (weak rapid pulse, tachycardia). May cause metabolic acidosis. May affect urinary system (kidneys). It may affect the joints. It may affect the skeletal muscles. It may affect behavior/central nervous system (depression, headache, tremors, ataxia, hyperesthesia, stupor, sedation, fatigue, excitement, seizures, coma).

**Aspiration hazard** No information available.

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** Prolonged or repeated skin contact may cause defatting and drying of the skin,

and brittle nails. Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the blood (changes in red blood cell count, granulocytopenia). Prolonged or repeated inhalation may affect the cardiovascular system. Prolonged or repeated inhalation may affect the thyroid (evidence of thyroid hyperfunction). Prolonged or repeated ingestion may affect the spleen. Prolonged or repeated ingestion may affect the bladder. Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated ingestion may affect the blood (normocytic anemia, macrocytosis). Prolonged or repeated inhalation may cause eye and throat irritation and bronchitis. Prolonged or repeated inhalation may cause nausea, gastritis, loss of appetite, and weight loss. Prolonged or repeated inhalation may cause central nervous system effects such as weakness, dizziness, drowsiness, and vertigo.

**Sensitization:** No information available.

**Mutagenic Effects:** May affect genetic material  
Sex Chromosome Loss and Nondisjunction in *Saccharomyces cerevisiae* (yeast)  
Cytogenetic analysis (Hamster fibroblast)

**Carcinogenic effects:** Not classifiable as a human carcinogen.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Acetone	67-64-1	Not listed	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed
Benzene	71-43-2	Monograph 100F [2012] Supplement 7 [1987] Monograph 29 [1982]	A1 Confirmed Human Carcinogen	Known Human Carcinogen	Present see 29 CFR 1910.1028	Present includes pure substance or mixtures containing $\geq 0.1\%$ (w/w) concentration. Restricted use: all uses involving Benzene as a feedstock containing $>50\%$ of Benzene by volume; genuine research or analysis	Not listed
Formaldehyde	50-00-0	Group 1 - Carcinogenic to Humans - Monograph 100F [2012] Monograph 88 [2006] Monograph 62 [1995] Supplement 7 [1987]	A2 Suspected Human Carcinogen	Known Human Carcinogen	Present see 29 CFR 1910.1048	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** Suspected of damaging fertility or the unborn child

**Reproductive Effects:** No information available  
**Developmental Effects:** Possible risk of harm to the unborn child  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** Respiratory system. central nervous system.  
**STOT - repeated exposure** No information available.  
**Target Organs:** Skin. Central nervous system. Peripheral nervous system. Kidneys. Liver.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Acetone - 67-64-1*

**Freshwater Fish Species Data:** 4.74 - 6.33 mL/L LC50 Oncorhynchus mykiss 96 h 1  
8300 mg/L LC50 Lepomis macrochirus 96 h 1  
6210 - 8120 mg/L LC50 Pimephales promelas 96 h static 1  
**Water Flea Data:** 10294 - 17704 mg/L EC50 Daphnia magna 48 h  
12600 - 12700 mg/L EC50 Daphnia magna 48 h

*Benzene - 71-43-2*

**Freshwater Algae Data:** 29 mg/L EC50 Pseudokirchneriella subcapitata 72 h  
**Freshwater Fish Species Data:** 10.7 - 14.7 mg/L LC50 Pimephales promelas 96 h flow-through 1 5.3 mg/L LC50  
Oncorhynchus mykiss 96 h flow-through 1 22.49 mg/L LC50 Lepomis macrochirus  
96 h static 1 28.6 mg/L LC50 Poecilia reticulata 96 h static 1 22330 - 41160 µg/L  
LC50 Pimephales promelas 96 h static 1 70000 - 142000 µg/L LC50 Lepomis  
macrochirus 96 h static 1  
**Water Flea Data:** 8.76 - 15.6 mg/L EC50 Daphnia magna 48 h 10 mg/L EC50 Daphnia magna 48 h

*Formaldehyde - 50-00-0*

**Freshwater Fish Species Data:** 0.032 - 0.226 mL/L LC50 Oncorhynchus mykiss 96 h flow-through 1  
100 - 136 mg/L LC50 Oncorhynchus mykiss 96 h static 1  
22.6 - 25.7 mg/L LC50 Pimephales promelas 96 h flow-through 1  
23.2 - 29.7 mg/L LC50 Pimephales promelas 96 h static 1  
1510 µg/L LC50 Lepomis macrochirus 96 h static 1  
41 mg/L LC50 Brachydanio rerio 96 h static 1  
**Water Flea Data:** 11.3 - 18 mg/L EC50 Daphnia magna 48 h  
2 mg/L LC50 Daphnia magna 48 h

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Acetone	67-64-1	None	None	None	U002 Ignitable waste
Benzene	71-43-2	None	None	None	U019 ignitable waste, toxic waste
Formaldehyde	50-00-0	None	None	None	U122

**14. TRANSPORT INFORMATION****DOT**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Subsidiary Class:** No information available  
**Packing group:** II  
**Emergency Response Guide Number:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** 5000 lbs./2270 kg  
**Special Provisions:** No Information available  
**Symbol(s):** [DOT]: (R5) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 5000 pounds (2270 Kilograms).  
**Description:** UN1090,Acetone ,3,,PG II

**TDG (Canada)**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No Information available  
**Description:** ACETONE,3,UN1090,PG II

**ADR**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Description:** UN1090 Acetone,3,II

**IMO / IMDG**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone (Acetone solutions)  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No information available  
**EMS:** F-E

**RID**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** II

**Description:** UN1090 Acetone,3,II,RID

**ICAO**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** Acetone,3,UN1090,PG II

**IATA**

**UN-No:** UN1090  
**Proper Shipping Name:** Acetone  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 3H  
**Special Provisions** No information available  
**Description:** UN1090,Acetone,3,PG II

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Acetone	67-64-1	Present (ACTIVE)	Present KE-29367	Present	Present (2)-542	Present	Present	Present 200-662-2
Benzene	71-43-2	Present(ACTIVE)	Present KE-02150	Present	Present (3)-1	Present	Present	Present 200-753-7
Formaldehyde	50-00-0	Present(ACTIVE)	Present KE-17074	Present	Present (2)-482	Present	Present	Present 200-001-8

**U.S. Regulations**

*Acetone*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** Present (sn 006)  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
 = 1 lb RQ (land/water)  
 = 5000 lb RQ (air)  
**Louisiana Reportable Quantity List for Pollutants:** Listed  
**California Directors List of Hazardous Substances:** Present

**FDA - Direct Food Additives** 21 CFR 173.210

**FDA - 21 CFR - Total Food Additives** 173.210 175.105 175.320 176.180 176.300 177.2600 73.1 73.30 73.345 73.615

*Benzene*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 0197  
**New Jersey (EHS) List:** 0197 500 lb TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
 Present  
 Special hazardous substance  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Pennsylvania RTK - Special Hazardous Substances** Present  
**Michigan - Critical Materials List:** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**

10 lb RQ  
1 lb RQ

**Connecticut - Carcinogenic Substances:** Present

**Louisiana Reportable Quantity List for Pollutants:** 10lbfinal RQreceives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule

4.54kgfinal RQreceives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule

**California Directors List of Hazardous Substances:** Present

**FDA - 21 CFR - Total Food Additives** 172.560, 175.105

*Formaldehyde*

**Massachusetts RTK:** Present

**Massachusetts EHS:** carcinogen; extraordinarily hazardous

**New Jersey RTK Hazardous Substance List:** 0946

**New Jersey (EHS) List:** 0946 500 lb TPQ

**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present

**New Jersey TCPA - EHS:** 175lbTQ

15000lbTQ

**Pennsylvania RTK:** Environmental hazard

Special hazardous substance

**Pennsylvania RTK - Environmental Hazard List** Present

**Pennsylvania RTK - Special Hazardous Substances** Present

**Michigan PSM HHC:** = 1000 lb TQ

**Minnesota - Hazardous Substance List:** Present

**New York Release Reporting - List of Hazardous Substances:**

100 lb RQ

1 lb RQ

**Louisiana Reportable Quantity List for Pollutants:** 100lbfinal RQ

45.4kgfinal RQ

**California Directors List of Hazardous Substances:** Present

**FDA - Direct Food Additives** 21 CFR 173.340

**FDA - 21 CFR - Total Food Additives** 173.340 175.105 175.210 175.300 176.170 176.180 176.200 177.1200 177.2410  
178.3120 573.460

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

#### Chemicals Known to the State of California to Cause Cancer:

 **WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

#### Chemicals Known to the State of California to Cause Reproductive Toxicity:

 **WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Acetone	67-64-1	Not Listed	Not Listed	Not Listed	Not Listed
Benzene	71-43-2	carcinogen	developmental toxicity	male reproductive toxicity	Not Listed
Formaldehyde	50-00-0	carcinogen	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Acetone	67-64-1	5000 lb final RQ 2270 kg final RQ	None	None	None	None
Benzene	71-43-2	10 lb final RQ 4.54 kg final RQ	None	None	None	0.1 % de minimis concentration
Formaldehyde	50-00-0	100 lb final RQ 45.4 kg final RQ	100 lb EPCRA RQ	None	None	0.1 % de minimis concentration

### U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals	TSCA 8(d) -Health and Safety
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		With Significant New Use Rules (SNURS)	Reporting
Acetone	67-64-1	Not Applicable	Not Applicable
Benzene	71-43-2	Not Applicable	Not Applicable
Formaldehyde	50-00-0	Not Applicable	Not Applicable

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component

Acetone  
67-64-1 ( 99-100.5 )

Benzene  
71-43-2 ( 0-0.003 )

Formaldehyde  
50-00-0 ( 0-0.002 )

WHMIS 2015 Hazard Classification

Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2A: H319 Causes serious eye irritation.

Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Germ cell mutagenicity - Category 1B: H340 May cause genetic defects.; Carcinogenicity - Category 1A: H350 May cause cancer.; Specific target organ toxicity - Repeated exposure - Category 1: H372 Causes damage to organs through prolonged or repeated exposure.; Aspiration hazard - Category 1: H304 May be fatal if swallowed and enters airways.

Flammable gases - Category 1: H220 Extremely flammable gas.; Flammable liquids - Category 3: H226 Flammable liquid and vapour. (solution, 37%); Corrosive to Metals - Category 1: H290 May be corrosive to metals. (solution, 37%); Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (solution, 37%); Acute toxicity - Dermal - Category 3: H311 Toxic in contact with skin. (solution, 37%); Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation. (solution, 37%); Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage. (solution, 37%); Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Skin sensitizers - Category 1A: H317 May cause allergic skin reaction. (solution, 37%); Germ cell mutagenicity - Category 2: H341 Suspected of causing genetic defects.; Carcinogenicity - Category 1A: H350 May cause cancer.; Reproductive Toxicity - Category 1: H360 May damage fertility or the unborn child. (solution, 37%; contains 16% of a substance that is toxic to reproduction (Methyl alcohol)); Specific target organ toxicity - Single exposure - Category 2: H371 May cause damage to organs. (solution, 37%); Specific target organ toxicity - Single exposure - Category 3: H335 May cause respiratory irritation.; Specific target organ toxicity - Single exposure - Category 3: H336 May cause drowsiness or dizziness. (solution, 37%)

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

### WHMIS 1988 Hazard Class

B2 Flammable liquid  
D2B Toxic materials

### Components

Acetone

Benzene

Formaldehyde

WHMIS 1988

B2 D2B

B2,D2A,D2B

A B1 D1A D2A D2B

B3 D1A D2A D2B E regulated under Formol

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS

contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Acetone	1 %
Benzene	0.1 %
Formaldehyde	0.1 %

### Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Acetone	67-64-1	Present	Not Listed
Benzene	71-43-2	Present	Not Listed
Formaldehyde	50-00-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Acetone	67-64-1	Not listed
Benzene	71-43-2	Present
Formaldehyde	50-00-0	Present
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Acetone	67-64-1	Not listed
Benzene	71-43-2	Not listed
Formaldehyde	50-00-0	Not listed

### EU Classification

#### EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Acetone	67-64-1	
Benzene	71-43-2	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.; Germ cell mutagenicity - Muta. 1B: H340 May cause genetic defects.; Carcinogenicity - Carc. 1A: H350 May cause cancer.; Specific target organ toxicity - Repeated exposure - STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure. (No information to prove exclusion of certain routes of exposure); Aspiration hazard - Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.601-020-00-8
Formaldehyde	50-00-0	

#### EU - CLP (1272/2008)

#### R-phrase(s)

- R11 - Highly flammable.
- R36 - Irritating to eyes.
- R66 - Repeated exposure may cause skin dryness or cracking.
- R67 - Vapors may cause drowsiness and dizziness.

#### S -phrase(s)

- S 9 - Keep container in a well-ventilated place.
- S16 - Keep away from sources of ignition - No smoking.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Acetone	67-64-1	F; R11 Xi; R36 R66 R67	No information	S2 S9 S16 S26
Benzene	71-43-2	F; R11 Xi; R36/38 Carc.Cat.1; R45 Muta.Cat.2; R46 T; R48/23/24/25 Xn; R65	No information	S53 S45
Formaldehyde	50-00-0		0.2%≤C<1% Xi;R43 1%≤C<5% Xn;R40-43 25%≤C T;R23/24/25-34-40-43 5%≤C<25% Xn;R20/21/22-36/37/38-40-43	S(1/2)-S26-S36/37/39-S45-S51

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

Xi - Irritant.

F - Highly flammable.

Xi



F



## 16. OTHER INFORMATION

**Preparation Date:** 01/01/2019  
**Revision Date:** N/A  
**Prepared by:** -

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Dawn Scientific Inc Chemicals & Laboratory Products. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Dawn Scientific Inc assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**