

## Safety Data Sheet

## Firestone Building Products Company

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

## 1.1 Product identifier

**Product Name** • **Bonding Adhesive BA-2012**

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

**Relevant identified use(s)** • Construction: Adhesive

## 1.3 Details of the supplier of the safety data sheet

**Manufacturer** • Firestone Building Products Company  
200 4th Avenue S  
Nashville, TN 37201-2208  
United States

firestonemsds@bfdp.com

**Telephone (General)** • 800-428-4442

**Supplier** • Firestone Building Products Europe  
Ikaroslaan 75  
1930 Zaventem  
Belgium

firestonemsds@bfdp.com

**Telephone (General)** • +32 2 711 44 50

## 1.4 Emergency telephone number

**Manufacturer** • (800) 424-9300 - CHEMTREC

**Manufacturer** • (703) 527-3887 - CHEMTREC - International

**Supplier** • +1 (703) 527-3887 - CHEMTREC - International

## Section 2: Hazards Identification

## EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

## 2.1 Classification of the substance or mixture

**CLP** • Flammable Liquids 2 - H225  
Skin Irritation 2 - H315  
Eye Irritation 2 - H319  
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336  
Hazardous to the aquatic environment Chronic 2 - H411

**DSD/DPD** • Highly Flammable (F)  
Irritant (Xi)  
Dangerous to the Environment (N)  
R11, R38, R67, R51/53

## 2.2 Label Elements

## CLP

**DANGER**

- Hazard statements** • H225 - Highly flammable liquid and vapour  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H336 - May cause drowsiness or dizziness  
 H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

- Prevention** • P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P240 - Ground and/or bond container and receiving equipment.  
 P241 - Use explosion-proof electrical/ventilating/lighting/equipment.  
 P242 - Use only non-sparking tools.  
 P243 - Take precautionary measures against static discharge.  
 P261 - Avoid breathing mist/vapours/spray.  
 P264 - Wash thoroughly after handling.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P273 - Avoid release to the environment.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • P370+P378 - In case of fire: Use to extinguish.  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P312 - Call a POISON CENTER/doctor if you feel unwell.  
 P302+P352 - IF ON SKIN: Wash with plenty of water.  
 P321 - Specific treatment, see supplemental first aid information.  
 P332+P313 - If skin irritation occurs: Get medical advice/attention.  
 P362+P364 - Take off contaminated clothing and wash it before reuse.  
 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 advice/attention.  
 P391 - Collect spillage.
- Storage/Disposal** • P233 - Keep container tightly closed.  
 P403+P235 - Store in a well-ventilated place. Keep cool.  
 P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## DSD/DPD



- Risk phrases** • R11 - Highly flammable.  
 R38 - Irritating to skin.  
 R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 R67 - Vapours may cause drowsiness and dizziness.
- Safety phrases** • S3 - Keep in a cool place.  
 S9 - Keep container in a well ventilated place  
 S16 - Keep away from sources of ignition - No Smoking.  
 S21 - When using do not smoke.  
 S23 - Do not breathe the gas/fumes/vapour/spray.  
 S57 - Use appropriate containment to avoid environmental contamination.

**2.3 Other Hazards**

## CLP

- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

**DSD/DPD**

- According to European Directive 1999/45/EC this preparation is considered dangerous.

**United States (US)**

According to: OSHA 29 CFR 1910.1200 HCS

**2.1 Classification of the substance or mixture****OSHA HCS 2012**

- Flammable Liquids 2  
Skin Irritation 2  
Eye Irritation 2A  
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation  
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects

**2.2 Label elements****OSHA HCS 2012****DANGER**

- Hazard statements**
- Highly flammable liquid and vapour  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation and drowsiness or dizziness

**Precautionary statements**

- Prevention**
- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground and/or bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing mist/vapours/spray.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.
- Response**
- In case of fire: Use to extinguish.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor if you feel unwell.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Specific treatment, see supplemental first aid information.  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash 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/attention.

- Storage/Disposal**
- Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**2.3 Other hazards****OSHA HCS 2012**

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

**Canada**

According to: WHMIS

## 2.1 Classification of the substance or mixture

### WHMIS

- Flammable Liquids - B2
- Other Toxic Effects - D2B

## 2.2 Label elements

### WHMIS



### WHMIS

- Flammable Liquids - B2
- Other Toxic Effects - D2B

## 2.3 Other hazards

### WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

See Section 12 for Ecological Information.

## Section 3 - Composition/Information on Ingredients

### 3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

### 3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Naphtha (petroleum), hydrotreated light	<b>CAS:</b> 64742-49-0 <b>EC Number:</b> 265-151-9	10% TO 25%	NDA	<b>EU DSD/DPD:</b> Xn, R65, Xi, R38, F, R11, N, R51/53 <b>EU CLP:</b> Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3: Narc., H336 <b>OSHA HCS 2012:</b> Data Lacking	NDA
Cyclohexane	<b>CAS:</b> 110-82-7 <b>EC Number:</b> 203-806-2	10% TO 25%	Ingestion/Oral-Rat LD50 • 12705 mg/kg	<b>EU DSD/DPD:</b> EU CLP, Annex VI, Table 3.2: F, R11; Xn, R65; Xi, R38; R67; N, R50, R53 <b>EU CLP:</b> Flam. Liq. 2, H225; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3: Narc., H336; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 <b>OSHA HCS 2012:</b> Flam. Liq. 2, Eye Irrit. 2A, Skin Irrit 2, STOT SE 3: Resp. Irrit. & Narc.	NDA
Acetic acid, propyl ester	<b>CAS:</b> 109-60-4 <b>EC Number:</b> 203-686-1	2.5% TO 10%	Ingestion/Oral-Rat LD50 • 9370 mg/kg Skin-Rabbit LD50 • >20 mL/kg	<b>EU DSD/DPD:</b> EU CLP, Annex VI, Table 3.2: F, R11; Xi, R36; R66; R67 <b>EU CLP:</b> Annex VI: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066 <b>OSHA HCS 2012:</b> Flam. Liq. 2; Eye Irrit. 2A; Skin Irrit 2; STOT SE 3: Resp. Irrit. & Narc.	NDA
2-Butanone	<b>CAS:</b> 78-93-3 <b>EC Number:</b> 201-159-0	2.5% TO 10%		<b>EU DSD/DPD:</b> EU CLP, Annex VI, Table 3.2: F, R11; Xi, R36; R66; R67 <b>EU CLP:</b> Annex VI: Flam. Liq. 2., H225; Eye Irrit. 2, H319; STOT SE 3: Narc., H336; EUH066 <b>OSHA HCS 2012:</b> Skin Irrit. 2; Eye Irrit. 2; STOT RE 2; STOT SE 3: Narc.; STOT SE 3:	NDA

Zinc, bis (dibutylidithiocarbamate)-	CAS:136-23-2 EC Number:205-232-8	<= 2.5%	NDA	Resp. Irrit.; Flam. Liq. 2; Repr. 2 <b>EU DSD/DPD:</b> EU CLP, Annex VI, Table 3.2: Xi, R36/37/38; R43; N, R50, R53 <b>EU CLP:</b> Annex VI: Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 <b>OSHA HCS 2012:</b> Skin Sens. 1	NDA
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See Section 11 for Toxicological Information. See Section 16 for full text of H-statements and R-phrases.

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

#### Inhalation

- Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Move victim to fresh air.

#### Skin

- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing and shoes. Wash skin with soap and water.

#### Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

#### Ingestion

- Call a physician or poison control center immediately.

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

- Refer to Section 11 - Toxicological Information.

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

#### Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section 5 - Firefighting Measures

### 5.1 Extinguishing media

#### Suitable Extinguishing Media

- Use CO<sub>2</sub>, dry chemical, or foam.  
CAUTION: For mixtures containing a high percentage of an alcohol or polar solvent, alcohol-resistant foam may be more effective.

#### Unsuitable Extinguishing Media

- Do not use water.

### 5.2 Special hazards arising from the substance or mixture

#### Unusual Fire and Explosion Hazards

- Containers may explode when heated.  
Vapor explosion hazard indoors, outdoors or in sewers.  
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.  
Many liquids are lighter than water.  
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).  
Runoff to sewer may create fire or explosion hazard.  
Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.  
Vapors may form explosive mixtures with air.  
Vapors may travel to source of ignition and flash back.

#### Hazardous Combustion Products

- Toxic gases may be formed including carbon monoxide.

### 5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk.  
LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

## Section 6 - Accidental Release Measures

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

**Personal Precautions**

- CAUTION: Victim may be a source of contamination. Do not touch or walk through spilled material.

**Emergency Procedures**

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

### 6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

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

**Containment/Clean-up Measures**

- Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. A vapor suppressing foam may be used to reduce vapors. All equipment used when handling the product must be grounded. LARGE SPILLS: Dike far ahead of liquid spill for later disposal. LARGE SPILLS: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### 6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

**Handling**

- Keep away from fire. Keep away from heat and sparks.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage**

- Store in a well-ventilated place. Keep container tightly closed. Keep away from fire. Store in a cool, dry place.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Alberta	Canada British Columbia	Canada Manitoba	Canada New Brunswick

Acetic acid, propyl ester (109-60-4)	STELs	250 ppm STEL	250 ppm STEL; 1040 mg/m <sup>3</sup> STEL	250 ppm STEL	250 ppm STEL	250 ppm STEL; 1040 mg/m <sup>3</sup> STEL
	TWAs	200 ppm TWA	200 ppm TWA; 835 mg/m <sup>3</sup> TWA	200 ppm TWA	200 ppm TWA	200 ppm TWA; 835 mg/m <sup>3</sup> TWA
2-Butanone (78-93-3)	STELs	300 ppm STEL	300 ppm STEL; 885 mg/m <sup>3</sup> STEL	100 ppm STEL	300 ppm STEL	300 ppm STEL; 885 mg/m <sup>3</sup> STEL
	TWAs	200 ppm TWA	200 ppm TWA; 590 mg/m <sup>3</sup> TWA	50 ppm TWA	200 ppm TWA	200 ppm TWA; 590 mg/m <sup>3</sup> TWA
Cyclohexane (110-82-7)	TWAs	100 ppm TWA	100 ppm TWA; 344 mg/m <sup>3</sup> TWA	100 ppm TWA	100 ppm TWA	300 ppm TWA; 1030 mg/m <sup>3</sup> TWA

### Exposure Limits/Guidelines (Con't.)

	Result	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut	Canada Ontario	Canada Quebec
Acetic acid, propyl ester (109-60-4)	STELs	250 ppm STEL; 1040 mg/m <sup>3</sup> STEL	250 ppm STEL	250 ppm STEL; 1040 mg/m <sup>3</sup> STEL	250 ppm STEL	250 ppm STEV; 1040 mg/m <sup>3</sup> STEV
	TWAs	200 ppm TWA; 835 mg/m <sup>3</sup> TWA	200 ppm TWA	200 ppm TWA; 835 mg/m <sup>3</sup> TWA	200 ppm TWA	200 ppm TWA EV; 835 mg/m <sup>3</sup> TWA EV
2-Butanone (78-93-3)	STELs	300 ppm STEL; 885 mg/m <sup>3</sup> STEL	300 ppm STEL	300 ppm STEL; 885 mg/m <sup>3</sup> STEL	300 ppm STEL	100 ppm STEV; 300 mg/m <sup>3</sup> STEV
	TWAs	200 ppm TWA; 590 mg/m <sup>3</sup> TWA	200 ppm TWA	200 ppm TWA; 590 mg/m <sup>3</sup> TWA	200 ppm TWA	50 ppm TWA EV; 150 mg/m <sup>3</sup> TWA EV
Cyclohexane (110-82-7)	STELs	375 ppm STEL; 1290 mg/m <sup>3</sup> STEL	Not established	375 ppm STEL; 1290 mg/m <sup>3</sup> STEL	Not established	Not established
	TWAs	300 ppm TWA; 1030 mg/m <sup>3</sup> TWA	100 ppm TWA	300 ppm TWA; 1030 mg/m <sup>3</sup> TWA	100 ppm TWA	300 ppm TWA EV; 1030 mg/m <sup>3</sup> TWA EV

### Exposure Limits/Guidelines (Con't.)

	Result	Canada Saskatchewan	Canada Yukon	Europe	OSHA
Acetic acid, propyl ester (109-60-4)	TWAs	200 ppm TWA	200 ppm TWA; 840 mg/m <sup>3</sup> TWA	Not established	200 ppm TWA; 840 mg/m <sup>3</sup> TWA
	STELs	Not established	250 ppm STEL; 1050 mg/m <sup>3</sup> STEL	Not established	Not established
2-Butanone (78-93-3)	TWAs	200 ppm TWA	200 ppm TWA; 590 mg/m <sup>3</sup> TWA	Not established	200 ppm TWA; 590 mg/m <sup>3</sup> TWA
	STELs	Not established	250 ppm STEL; 740 mg/m <sup>3</sup> STEL	Not established	Not established
Cyclohexane (110-82-7)	TWAs	100 ppm TWA	300 ppm TWA; 1050 mg/m <sup>3</sup> TWA	200 ppm TWA; 700 mg/m <sup>3</sup> TWA	300 ppm TWA; 1050 mg/m <sup>3</sup> TWA
	STELs	Not established	375 ppm STEL; 1300 mg/m <sup>3</sup> STEL	Not established	Not established

## Exposure Limits Supplemental

### ACGIH

- Cyclohexane (110-82-7): **TLV Basis - Critical Effects:** (CNS impairment)
- Acetic acid, propyl ester (109-60-4): **TLV Basis - Critical Effects:** (eye and upper respiratory tract irritation)
- 2-Butanone (78-93-3): **BEIs:** (2 mg/L Medium: urine Time: end of shift Parameter: MEK) | **TLV Basis - Critical Effects:** (CNS and PNS impairment; upper respiratory tract irritation) | **Notice of Intended Changes (BEIs):** (2 mg/L Medium: urine Time: end of shift Parameter: Methyl ethyl ketone (nonspecific))

## 8.2 Exposure controls

### Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Personal Protective Equipment

#### Respiratory

- If using material in area without sufficient ventilation or in confined or enclosed spaces wear a self-contained breathing apparatus or full-face airline respirator.

#### Eye/Face

- Safety glasses with side shields should be worn at a minimum.

#### Skin/Body

- Use protective gloves, Nitrile BT>360m, .54mm. The actual work situation is not known. Glove recommendation based upon normal product use and incidental contact only. Contact glove supplier for help with glove selection.

### Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

#### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

STEV = Short Term Exposure Value

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWAEV = Time-Weighted Average Exposure Value

## Section 9 - Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Green liquid with characteristic odor.
Color	Green	Odor	Characteristic
Odor Threshold	Data lacking		
General Properties			
Boiling Point	60 °C(140 °F)	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Immiscible
Viscosity	90 Stoke(S,St) or cm <sup>2</sup> /sec @ 20 °C (68 °F)	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizer.		
Volatility			
Vapor Pressure	175 hPa @ 20 °C(68 °F)	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	-19 °C(-2.2 °F)	UEL	8.3 %
LEL	1.3 %	Autoignition	Data lacking
Flammability (solid, gas)	Flammable Liquid.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

### 9.2 Other Information

- No additional physical and chemical parameters noted.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.



## 10.2 Chemical stability

- Stable under normal temperatures and pressures.

## 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

## 10.4 Conditions to avoid

- No data available.

## 10.5 Incompatible materials

- Strong oxidizing agents.

## 10.6 Hazardous decomposition products

- None known.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

Components		
Cyclohexane (10% TO 25%)	110-82-7	<b>Acute Toxicity:</b> Ingestion/Oral-Rabbit LD50 • 5.5 mg/kg; <b>Irritation:</b> Skin-Rabbit • 1548 mg 2 Day(s)-Intermittent
Acetic acid, propyl ester (2.5% TO 10%)	109-60-4	<b>Acute Toxicity:</b> Ingestion/Oral-Rabbit LD50 • 6640 mg/kg; Skin-Rabbit LD50 • >20 mL/kg; <b>Irritation:</b> Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg-Open • Mild irritation
2-Butanone (2.5% TO 10%)	78-93-3	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 2737 mg/kg; Inhalation-Rat LC50 • 23500 mg/m <sup>3</sup> ; Skin-Rabbit LD50 • 6480 mg/kg; <b>Irritation:</b> Eye-Rabbit • 80 mg; Skin-Rabbit • 14 mg 24 Hour(s)-Open • Mild irritation; <b>Reproductive:</b> Inhalation-Rat TClO • 1000 ppm 7 Hour(s)(6-15D preg); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Musculoskeletal system</i>

GHS Properties	Classification
Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • Skin Irritation 2 OSHA HCS 2012 • Skin Irritation 2
Serious eye damage/Irritation	EU/CLP • Eye Irritation 2 OSHA HCS 2012 • Eye Irritation 2A
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

<b>Toxicity for Reproduction</b>	<b>EU/CLP</b> • Classification criteria not met <b>OSHA HCS 2012</b> • Classification criteria not met
<b>STOT-SE</b>	<b>EU/CLP</b> • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects <b>OSHA HCS 2012</b> • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
<b>STOT-RE</b>	<b>EU/CLP</b> • Classification criteria not met <b>OSHA HCS 2012</b> • Classification criteria not met

## Potential Health Effects

### Inhalation

- Acute (Immediate)**
  - May cause respiratory irritation. Repeated and prolonged exposure may cause Central Nervous System (CNS) effects.
- Chronic (Delayed)**
  - No data available.

### Skin

- Acute (Immediate)**
  - Causes skin irritation.
- Chronic (Delayed)**
  - No data available.

### Eye

- Acute (Immediate)**
  - Causes eye irritation.
- Chronic (Delayed)**
  - No data available.

### Ingestion

- Acute (Immediate)**
  - Based upon data from components this material may be harmful if swallowed.
- Chronic (Delayed)**
  - No data available.

#### Key to abbreviations

LC = Lethal Concentration  
LD = Lethal Dose  
MLD = Mild  
TC = Toxic Concentration

## Section 12 - Ecological Information

### 12.1 Toxicity

- This material may be toxic to aquatic organisms and cause long-term adverse effects in the aquatic environment.

### 12.2 Persistence and degradability

- No data available

### 12.3 Bioaccumulative potential

- No data available

### 12.4 Mobility in Soil

- No data available

### 12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted by the manufacturer.

### 12.6 Other adverse effects

- No studies have been found.

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

**Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1133	Adhesives	3	II	NDA
TDG	UN1133	ADHESIVES	3	II	Marine Pollutant
IMO/IMDG	UN1133	ADHESIVES containing flammable liquids (Naphtha (petroleum), hydrotreated light, CYCLOHEXANE), MARINE POLLUTANT	3	II	Marine Pollutant
ADN	UN1133	ADHESIVES containing flammable liquid(vapour pressure at 50 °C not more than 110 kPa)	3	II	Marine Pollutant
ADR/RID	UN1133	Adhesives	3	II	Marine Pollutant
IATA/ICAO	UN1133	Adhesives	3	II	NDA

**14.6 Special precautions for user**

- None known.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

- Not relevant.

**14.8 Other information**

- **DOT** • Cyclohexane has a reportable quantity of 1000lbs (454kg) as listed in Appendix A to 49 CFR 172.101. 2-Butanone has a reportable quantity of 5000 lbs (2270 kg) as listed in Appendix A to 49 CFR 172.101.

## Section 15 - Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**SARA Hazard Classifications**

- Acute, Fire

State Right To Know				
Component	CAS	MA	NJ	PA
2-Butanone	78-93-3	Yes	Yes	Yes
Acetic acid, propyl ester	109-60-4	Yes	Yes	Yes
Cyclohexane	110-82-7	Yes	Yes	Yes
Naphtha (petroleum), hydrotreated light	64742-49-0	No	No	No
Zinc, bis (dibutylthiocarbamate)	136-23-2	No	No	No
-				

Inventory					
Component	CAS	Canada DSL	EU EINECS	EU ELNICS	TSCA
2-Butanone	78-93-3	Yes	Yes	No	Yes
Acetic acid, propyl ester	109-60-4	Yes	Yes	No	Yes
Cyclohexane	110-82-7	Yes	Yes	No	Yes
Naphtha (petroleum), hydrotreated light	64742-49-0	Yes	Yes	No	Yes
Zinc, bis(dibutyldithiocarbamato)	136-23-2	Yes	Yes	No	Yes

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamato)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	B2, D2B
• Acetic acid, propyl ester	109-60-4	B2
• 2-Butanone	78-93-3	B2, D2B

#### Canada - WHMIS - Ingredient Disclosure List

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamato)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	1 %
• Acetic acid, propyl ester	109-60-4	1 %
• 2-Butanone	78-93-3	1 %

## Europe

### Other

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Naphtha (petroleum), hydrotreated light	64742-49-0	Carc.Cat.2; R45 Muta.Cat.2; R46 Xn; R65
• Zinc, bis(dibutyldithiocarbamato)-	136-23-2	Xi; R36/37/38 R43 N; R50-53
• Cyclohexane	110-82-7	F; R11 Xi; R38 N; R50-53 Xn; R65 R67
• Acetic acid, propyl ester	109-60-4	F; R11 Xi; R36 R66 R67
• 2-Butanone	78-93-3	F; R11 Xi; R36 R66 R67

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamato)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Naphtha (petroleum), hydrotreated light	64742-49-0	T R:45-46-65 S:53-45
• Zinc, bis(dibutyldithiocarbamato)-	136-23-2	Xi N R:36/37/38-43-50/53 S:(2)-24-37-60-61
• Cyclohexane	110-82-7	F Xn N R:11-38-65-67-50/53 S:(2)-9-16-25-33-60-61-62

• Acetic acid, propyl ester	109-60-4	F Xi R:11-36-66-67 S:(2)-16-26-29-33
• 2-Butanone	78-93-3	F Xi R:11-36-66-67 S:(2)-9-16

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

• Naphtha (petroleum), hydrotreated light	64742-49-0	P
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	C
• 2-Butanone	78-93-3	Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

• Naphtha (petroleum), hydrotreated light	64742-49-0	S:53-45
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	S:(2)-24-37-60-61
• Cyclohexane	110-82-7	S:(2)-9-16-25-33-60-61-62
• Acetic acid, propyl ester	109-60-4	S:(2)-16-26-29-33
• 2-Butanone	78-93-3	S:(2)-9-16

**United States****Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - OSHA - Specifically Regulated Chemicals**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**Environment****U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	1000 lb final RQ; 454 kg final RQ
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	5000 lb final RQ; 2270 kg final RQ

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed

• Cyclohexane	110-82-7	1.0 % de minimis concentration
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Basis for Listing - Appendix VII</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Included in waste streams: F005, F039
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monitoring</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - D Series Wastes - Max Conc of Contaminants for the Tox Characteristic</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	200.0 mg/L regulatory level
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	waste number U159
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	0.28 mg/L (wastewater); 36 mg/kg (nonwastewater)
<b>U.S. - RCRA (Resource Conservation &amp; Recovery Act) - TSD Facilities Ground Water Monitoring</b>		
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	

**U.S. - RCRA (Resource Conservation & Recovery Act) - U Series Wastes - Acutely Toxic Wastes & Other Hazardous Characteristics**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	waste number U056 (Ignitable waste)
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	waste number U159 (Ignitable waste, Toxic waste)

**United States - California****Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - California - Proposition 65 - Developmental Toxicity**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Not Listed
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	Not Listed

**United States - Pennsylvania****Labor****U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	
• Acetic acid, propyl ester	109-60-4	Not Listed
• 2-Butanone	78-93-3	

**United States - Rhode Island****Labor****U.S. - Rhode Island - Hazardous Substance List**

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutylthiocarbamate)-	136-23-2	Not Listed
• Cyclohexane	110-82-7	Toxic; Flammable
• Acetic acid, propyl ester	109-60-4	Toxic; Flammable
• 2-Butanone	78-93-3	Toxic; Flammable

**15.2 Chemical Safety Assessment**

- No Chemical Safety Assessment has been carried out.

**Section 16 - Other Information****Relevant Phrases (code & full text)**

- H304 - May be fatal if swallowed and enters airways
- H317 - May cause an allergic skin reaction
- H335 - May cause respiratory irritation
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- EUH066 - Repeated exposure may cause skin dryness or cracking.
- R36/37 - Irritating to eyes and respiratory system.
- R43 - May cause sensitisation by skin contact.
- R50 - Very toxic to aquatic organisms.
- R52 - Harmful to aquatic organisms.
- R65 - Harmful: may cause lung damage if swallowed.
- R66 - Repeated exposure may cause skin dryness or cracking.

**Revision Date**

- 28/February/2018

**Preparation Date**

- 29/January/2016

**Other Information**

- Changes to this revision: Updated mailing address.

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**Key to abbreviations**

NDA = No data available