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
250 West 96th Street
Indianapolis, IN 46260
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 453/2010]
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, sparks, open flames and/or hot surfaces. - 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 and eye/face protection , .

Response

- P370+P378 - In case of fire: Use appropriate media for extinction.
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
- P362 - Take off contaminated clothing and wash before reuse.
- P332+P313 - If skin irritation occurs: Get medical advice/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 advice/attention.
- P321 - Specific treatment, see supplemental first aid information.
- 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 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 - H225
  Skin Irritation 2 - H315
  Eye Irritation 2A - H319
  Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
  Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements
- Highly flammable liquid and vapour - H225
  Causes skin irritation - H315
  Causes serious eye irritation - H319
  May cause respiratory irritation and drowsiness or dizziness - H335+H336

Precautionary statements

Prevention
- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210
  Keep container tightly closed. - P233
  Ground and/or bond container and receiving equipment. - P240
  Use explosion-proof electrical/ventilating/lighting/equipment. - P241
  Use only non-sparking tools. - P242
  Take precautionary measures against static discharge. - P243
  Avoid breathing mist/vapours/spray. - P261
  Wash thoroughly after handling. - P264
  Use only outdoors or in a well-ventilated area. - P271
  Wear protective gloves and eye/face protection , . - P280

Response
- In case of fire: Use appropriate media for extinction. - P370+P378
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353
  Take off contaminated clothing and wash before reuse. - P362
  If skin irritation occurs: Get medical advice/attention. - P332+P313
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
  If eye irritation persists: Get medical advice/attention. - P337+P313
  Call a POISON CENTER or doctor/physician if you feel unwell. - P312
  Specific treatment, see supplemental first aid information. - P321

Storage/Disposal
- Keep container tightly closed. - P233
  Store in a well-ventilated place. Keep cool. - P403+P235
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

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

- 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	**CAS:**64742-49-0 **EC Number:**265-151-9	10% TO 25%	NDA	**EU DSD/DPD:** Xn, R65, Xi, R38, F, R11, N, R51/53 **EU CLP:** Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3: Narc., H336 **OSHA HCS 2012:** Data Lacking	NDA
Cyclohexane	**CAS:**110-82-7 **EC Number:**203-806-2	10% TO 25%	Ingestion/Oral-Rat LD50 • 12705 mg/kg	**EU DSD/DPD:** Annex VI, Table 3.2: F; R11 Xi; R38 N; R50-53 Xn; R65 R67 **EU CLP:** 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 **OSHA HCS 2012:** Flam. Liq. 2, Eye Irrit. 2A, Skin Irrit 2, STOT SE 3: Resp. Irrit. & Narc.	NDA
Acetic acid, propyl ester	**CAS:**109-60-4 **EC Number:**203-686-1	2.5% TO 10%	Ingestion/Oral-Rat LD50 • 9370 mg/kg Skin-Rabbit LD50 • >20 mL/kg	**EU DSD/DPD:** Annex VI, Table 3.2: F; R11 Xi; R36 R66 R67 **EU CLP:** Annex VI: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066 **OSHA HCS 2012:** Flam. Liq. 2; Eye Irrit. 2A; Skin Irrit 2; STOT SE 3: Resp. Irrit. & Narc.	NDA

2-Butanone	**CAS:**78-93-3 **EC Number:**201-159-0	2.5% TO 10%	Ingestion/Oral-Rat LD50 • 2737 mg/kg Inhalation-Rat LC50 • 23500 mg/m³ Skin-Rabbit LD50 • 6480 mg/kg	**EU DSD/DPD:** Annex VI, Table 3.2: F; R11 Xi; R36 R66 R67 **EU CLP:** Annex VI: Flam. Liq. 2., H225; Eye Irrit. 2, H319; STOT SE 3: Narc., H336; EUH066 **OSHA HCS 2012:**	NDA
Zinc, bis (dibutyldithiocarbamato)-	**CAS:**136-23-2 **EC Number:**205-232-8	<= 2.5%	NDA	**EU DSD/DPD:** Annex VI, Table 3.2: Xi; R36/37/38 R43 N; R50-53 **EU CLP:** 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 **OSHA HCS 2012:** Skin Sens. 1	NDA

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 CO2, 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/m3 STEL	250 ppm STEL	250 ppm STEL	250 ppm STEL; 1040 mg/m3 STEL
	TWAs	200 ppm TWA	200 ppm TWA; 835 mg/m3 TWA	200 ppm TWA	200 ppm TWA	200 ppm TWA; 835 mg/m3 TWA
2-Butanone (78-93-3)	STELs	300 ppm STEL	300 ppm STEL; 885 mg/m3 STEL	100 ppm STEL	300 ppm STEL	300 ppm STEL; 885 mg/m3 STEL
	TWAs	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA	50 ppm TWA	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA
Cyclohexane (110-82-7)	TWAs	100 ppm TWA	100 ppm TWA; 344 mg/m3 TWA	100 ppm TWA	100 ppm TWA	300 ppm TWA; 1030 mg/m3 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/m3 STEL	250 ppm STEL	250 ppm STEL; 1040 mg/m3 STEL	250 ppm STEL	250 ppm STEV; 1040 mg/m3 STEV
	TWAs	200 ppm TWA; 835 mg/m3 TWA	200 ppm TWA	200 ppm TWA; 835 mg/m3 TWA	200 ppm TWA	200 ppm TWAEV; 835 mg/m3 TWAEV
2-Butanone (78-93-3)	STELs	300 ppm STEL; 885 mg/m3 STEL	300 ppm STEL	300 ppm STEL; 885 mg/m3 STEL	300 ppm STEL	100 ppm STEV; 300 mg/m3 STEV
	TWAs	200 ppm TWA; 590 mg/m3 TWA	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA	200 ppm TWA	50 ppm TWAEV; 150 mg/m3 TWAEV
Cyclohexane (110-82-7)	STELs	375 ppm STEL; 1290 mg/m3 STEL	Not established	375 ppm STEL; 1290 mg/m3 STEL	Not established	Not established
	TWAs	300 ppm TWA; 1030 mg/m3 TWA	100 ppm TWA	300 ppm TWA; 1030 mg/m3 TWA	100 ppm TWA	300 ppm TWAEV; 1030 mg/m3 TWAEV

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/m3 TWA	Not established	200 ppm TWA; 840 mg/m3 TWA
	STELs	Not established	250 ppm STEL; 1050 mg/m3 STEL	Not established	Not established
2-Butanone (78-93-3)	TWAs	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA	Not established	200 ppm TWA; 590 mg/m3 TWA
	STELs	Not established	250 ppm STEL; 740 mg/m3 STEL	Not established	Not established
Cyclohexane (110-82-7)	TWAs	100 ppm TWA	300 ppm TWA; 1050 mg/m3 TWA	200 ppm TWA; 700 mg/m3 TWA	300 ppm TWA; 1050 mg/m3 TWA
	STELs	Not established	375 ppm STEL; 1300 mg/m3 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

- Wear protective gloves.

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
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
STEV = Short Term Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
TWAEV = Time-Weighted Average Exposure Value

Section 9 - Physical and Chemical Properties

9.1 Information on 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	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Immiscible
Viscosity	90 Stoke(S,St) or cm2/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

Component Name	CAS	Data
Cyclohexane (10% TO 25%)	110-82-7	**Acute Toxicity:** orl-rbt LD50:5.5 mg/kg; **Irritation:** skn-rbt 1548 mg/2D-l
Acetic acid, propyl ester (2.5% TO 10%)	109-60-4	**Acute Toxicity:** orl-rbt LD50:6640 mg/kg; skn-rbt LD50:>20 mL/kg; **Irritation:** eye-rbt 500 mg/24H MLD; skn-rbt 500 mg open MLD
2-Butanone (2.5% TO 10%)	78-93-3	**Acute Toxicity:** orl-rat LD50:2737 mg/kg; ihl-rat LC50:23500 mg/m3; skn-rbt LD50:6480 mg/kg; **Irritation:** eye-rbt 80 mg; skn-rbt 14 mg/24H open MLD; **Reproductive:** ihl-rat TCLo:1000 ppm/7H (6-15D preg)

GHS Properties	Classification
Acute toxicity	**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
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **OSHA HCS 2012** • Skin Irritation 2
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

Toxicity for Reproduction	**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
Serious eye damage/Irritation	**EU/CLP** • Eye Irritation 2 **OSHA HCS 2012** • Eye Irritation 2A

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation. Repeated and prolonged expousre 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 73/78 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 (dibutyldithiocarbamato) -	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(dibutyldithiocarbamato)-	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(dibutyldithiocarbamato)-	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(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

U.S. - OSHA - Specifically Regulated Chemicals

• 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

Environment

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

• 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

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

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Zinc, bis(dibutyldithiocarbamato)-	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(dibutyldithiocarbamato)-	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

U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII

• 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	Included in waste streams: F005, F039

U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring

• 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	

U.S. - RCRA (Resource Conservation & Recovery Act) - D Series Wastes - Max Conc of Contaminants for the Tox Characteristic

• 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	200.0 mg/L regulatory level

U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261

• 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	waste number U159

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

• 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	

U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

• 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	0.28 mg/L (wastewater); 36 mg/kg (nonwastewater)

U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring

• 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	

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(dibutyldithiocarbamato)-	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(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

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

• 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

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

• 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

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

• 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

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

• 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

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

• 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

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(dibutyldithiocarbamato)-	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(dibutyldithiocarbamato)-	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.

Last Revision Date
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Key to abbreviations

NDA = No data available