

#### Safety Data Sheet

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

#### **1.1 Product identifier**

#### Product • Meteorwave<sup>®</sup> Prepreg / M-Ply<sup>™</sup>

- Name
- Meteorwave<sup>®</sup> 1000 Prepreg, Meteorwave<sup>®</sup> 1000NF Prepreg, Meteorwave<sup>®</sup> 2000 Prepreg, Meteorwave<sup>®</sup> 3000 Prepreg, Meteorwave<sup>®</sup> 3350 Prepreg, Meteorwave<sup>®</sup> 4000 Prepreg, Meteorwave<sup>®</sup> 7000 Prepreg, Meteorwave<sup>®</sup> 8000 Prepreg, Meteorwave<sup>®</sup> 8350 Prepreg, Meteorwave<sup>®</sup> 8300 Prepreg, Meteorwave<sup>®</sup> 8300 Prepreg, Meteorwave<sup>®</sup> 8300 Prepreg, Meteorwave<sup>®</sup> 6000 HF Prepreg, Meteorwave M1 Prepreg

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

- **Relevant** Prepreg for consumer and industrial electronics.
- identified

#### use(s) Use(s)

Consumer goods in direct contact with food stuffs, potable water, or continuous skin contact

advised against

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

Manufacturer	<u>North America</u> AGC Multi Material America, Inc.	<u>Asia</u> AGC Multi Material Singapore PTE, Ltd	<u>Europe</u> AGC Multi Material Europe S.A.
	1420 W. 12 <sup>th</sup> Place Tempe, AZ 85281 United States	4 Gul Crescent Jurong, Singapore 629520	Route des Usines, BP25 65303, Lannemezan, Cedex, France
	www.agc-multimaterial.com agc-ml.digital-po@agc.com		
1.4 Emergency teleph	one number		
	1-480-967-5600- (8AM - 5PM CST) M-F	+65 6861 7117 - Asia	+33-5-62-98-52-90- Europe (8AM-4PM M-F)
	1-800-424-9300 -		

1-800-424-9300 -CHEMTREC (US and Canada only)

#### **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 Not Classified
- DSD/DPD Not Classified

#### 2.2 Label Elements

CI P

 No label element(s) required. Hazard

statements

DSD/DPD

**Risk phrases** No label element(s) required.

#### 2.3 Other Hazards

- CLP • This material is exempt from CLP/REACH obligations as an article as specified in REACH (1907/2006) and related ECHA guidance.
- DSD/DPD • Under European Directive 1999/45/EC these product(s) are exempt and considered manufactured article(s) under stated normal conditions of use.

#### United States (US) According to: OSHA 29 CFR 1910.1200 HCS

#### 2.1 Classification of the substance or mixture

**OSHA HCS**  Not Classified 2012 2.2 Label elements **OSHA HCS** 2012 Hazard No label element(s) required. statements 2.3 Other hazards

**OSHA HCS** • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), these 2012 product(s) are exempt and considered manufactured article(s) under stated normal use conditions.

### Canada

According to: WHMIS

#### 2.1 Classification of the substance or mixture

WHMIS • Not classified

#### 2.2 Label elements

WHMIS • No label element(s) required

#### 2.3 Other hazards

WHMIS • Under Canadian regulations (Workplace Hazardous Materials Information System (WHMIS) – Hazardous

Products Act (HPA), Section 11 (1)), these product(s) are exempt and considered manufactured article(s) under stated normal conditions of use.

#### Section 3 - Composition/Information on Ingredients

#### 3.1 Substances

• Material does not meet the criteria of a substance.

#### 3.2 Mixtures

	Composition		
Chemical Name	Identifiers	%	
	CAS:78-93-3		
2-Butanone	EC Number:201-159-0	<1%	
	EU Index:606-002-00-3		
	CAS:108-94-1		
Cyclohexanone	EC Number:203-631-1	<1%	
-	EU Index:606-010-00-7		
Silica amorphous	CAS:7631-86-9	7% TO 15%	
Silica, amorphous	EC Number:231-545-4	7 % 10 15 %	
D stand rasin mixture	CAS:NA	200/ TO 500/	
B-staged resin mixture	EC Number:NA	20% TO 50%	
Class svide shemisels	CAS:65997-17-3	200/ TO 650/	
Glass, oxide, chemicals	EC Number:266-046-0	30% TO 65%	

#### Section 4 - First Aid Measures

#### 4.1 Description of first aid measures

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, move victim to fresh air. Administer oxygen if breathing is difficult. If signs/symptoms continue, get medical attention. Give artificial respiration if victim is not breathing.
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. In case of contact with substance, flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Wash skin with soap and water. If irritation develops and persists, get medical attention.
- Eye First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Obtain medical attention immediately if ingested.

#### 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 • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration

**Physician** 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	<ul> <li>LARGE FIRES: Water spray, fog or alcohol-resistant foam.</li> <li>SMALL FIRES: Dry chemical, CO2, water spray or alcohol-resistant foam.</li> </ul>
Unsuitable Extinguishing Media	• Do not use straight streams.
5.2 Special hazards	arising from the substance or mixture
Unusual Fire and Explosion Hazards	<ul> <li>Hazardous polymerization will occur at elevated temperatures</li> </ul>
Hazardous Combustion	Nitrous Oxides, Aldehydes, Carbon Monoxide, HBr, Various Acids.

#### Products

#### 5.3 Advice for firefighters

• Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Wear positive pressure self-contained breathing apparatus (SCBA).

#### **Section 6 - Accidental Release Measures**

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

# Personal Precautions No special precautions are expected to be necessary if material is used under ordinary conditions and as recommended. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Emergency ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Ventilate closed spaces before entering. 6.2 Environmental precautions

• Avoid release to the environment.

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

**Containment/Clean-up** • Avoid generating dust.

Measures Carefully shovel or sweep up spilled material and place in suitable container.

#### 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 • Avoid contact with heat and ignition sources. Minimize dust generation and accumulation. Use only with adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Avoid contact with skin, eyes or clothing. Avoid breathing fumes generated during processing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

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

**Storage** • Keep away from heat, sparks and flame. Store in a well-ventilated place. Keep container tightly closed. Avoid generating dust. Store at 77°F or below.

#### 7.3 Specific end use(s)

• Refer to Section 1.2 - Relevant identified uses.

#### **Section 8 - Exposure Controls/Personal Protection**

#### 8.1 Control parameters

		Exposu	re Limits/Guide	lines		
	Result	ACGIH	Australia	Brazil	Canada Alberta	Canada British Columbia
Silica, amorphous (7631-86-9)	TWAs	Not established	2 mg/m3 TWA (respirable dust, listed under Fumed silica)	Not established	Not established	Not established
	TWAs	20 ppm TWA	100 mg/m3 TWA		80 mg/m3; 20 ppm	20 ppm TWA
Cyclohexanone	STELs	50 ppm STEL	Not established		200 mg/m3; 50 ppm	50 ppm STEL
(108-94-1)	Biological Limit Values (BLV)	8 mg/L urine end of shift cyclohexanol; 80 mg/L urine end of last shift of workweek 1,2 cyclohexanediol	Not established		Not established	Not established
2 Putanana	STELs	300 ppm STEL	300 ppm STEL; 890 mg/m3 STEL	Not established	300 ppm STEL; 885 mg/m3 STEL	100 ppm STEL
2-Butanone (78-93-3)	TWAs	200 ppm TWA	150 ppm TWA; 445 mg/m3 TWA	155 ppm TWA LT; 460 mg/m3 TWA LT	200 ppm TWA; 590 mg/m3 TWA	50 ppm TWA
Glass, oxide, chemicals as Glass wool fiber	TWAs	1 fiber/cm3 TWA (respirable fibers: length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber	0.5 fibre/mL TWA (listed under Synthetic mineral fibres) as Glass wool fiber	Not established	1 fiber/cm3 TWA as Glass wool fiber	1 fiber/cm3 TWA (respirable fibers: length >5 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400- 450X magnification [4- mm objective], using phase- contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber
		Exposure Li	mits/Guidelines			
	Result	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut
Silica, amorphous (7631-86-9)	TWAs	Not established	Not established	2 mg/m3 TWA (respirable mass); 5 mg/m3 TWA (total mass); 0.05 mg/m3 TWA	Not established	2 mg/m3 TWA (respirable mass); 5 mg/m3 TWA (total mass); 0.05 mg/m3 TWA

				(regulated under Silica flour, respirable mass); 0.15 mg/m3 TWA (total mass, regulated under Silica flour)		(regulated under Silica flour, respirable mass); 0.15 mg/m3 TWA (regulated under Silica flour, total mass)
Cyclohexanone	TWAs					
(108-94-1)	STELs			000 0751		
2-Butanone	STELs	300 ppm STEL	-	300 ppm STEL; 885 mg/m3 STEL	300 ppm STEL	300 ppm STEL; 885 mg/m3 STEL
(78-93-3)	TWAs	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA	200 ppm TWA; 590 mg/m3 TWA	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA
Glass, oxide, chemicals as Glass wool fiber	TWAs	1 fiber/cm3 TWA (respirable fibers: length >5 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber	1 fiber/cm3 TWA (fibers >5 μm with a diameter of <3 μm, aspect ratio >5:1) as Glass wool fiber	3 fiber/cm3 TWA (with a diameter of <=3.5 μm and a length >=10 μm); 5 mg/m3 TWA (total mass) as Glass wool fiber	1 fiber/cm3 TWA (respirable fibers: length >5 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400- 450X magnification [4- mm objective], using phase- contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber	(with a diameter of <=3.5 μm and a length >=10 μm); 5 mg/m3 TWA (total mass) as Glass wool
		Exposure Li	mits/Guidelines		I	<b>-</b>
	Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	China
Silica, amorphous (7631-86-9)	TWAs	Not established	Not established	Not established	300 particle/mL TWA (as measured by Konimeter instrumentation, listed under Silica); 20 mppcf TWA (as measured by Impinger instrumentation, listed under Silica); 2 mg/m3 TWA (respirable mass, listed under Silica)	Not established
Cyclohexanone	STELs	50 PPM STEL	Not established			
(108-94-1)	TWAs	20 ppm TWA	100 mg/m3; 25 ppm			
2-Butanone	STELs	300 ppm STEL	100 ppm STEV; 300 mg/m3 STEV	300 ppm STEL	250 ppm STEL; 740 mg/m3 STEL	600 mg/m3 STEL
(78-93-3)	TWAs	200 ppm TWA	50 ppm TWAEV; 150 mg/m3 TWAEV	200 ppm TWA	200 ppm TWA; 590 mg/m3 TWA	300 mg/m3 TWA
Glass, oxide, chemicals	TWAs	1 fiber/cm3 TWA	1 fibre/cm3	1 fiber/cm3 TWA	30 mppcf TWA	Not established

as Glass wool fiber		(respirable fibers: length >5 µm, aspectratio >=3:1, as determined by the membrane filter method at 400-4500 magnification [4-mm objective], using phase-contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber	under Fibres- Artificial Vitreous Mineral Fibres)	Synthetic vitreous	(dust or fiberous); 10 mg/m3 TWA (dust or fiberous) as Glass wool fiber	
1		Exposure	Limits/Guidelin	es (Con't.)		
	Result	Czech Republic	Denmark	France	Germany DFG	Germany TRGS
Silica, amorphous (7631-86-9)	TWAs	0.1 mg/m3 TWA (respirable fraction); 4.0 mg/m3 TWA (as amorphous SiO2)	Not established	Not established	Not established	4 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, inhalable fraction)
	MAKs	Not established	Not established	Not established	4 mg/m3 TWA MAK (inhalable fraction)	Not established
	STELs	400 mg/m3 STEL	Not established	Not established		Not established
Cyclohexanone (108-94-1)	TWAs	200 mg/m3 TWA	25 ppm TWA; 100 mg/m3 TWA	25 ppm TWA; 100 mg/m3 TWA		50 ppm TWA; 200 mg/m3 TWA
	Ceilings	900 mg/m3 Ceiling	Not established		200 ppm Peak; 600 mg/m3 Peak	Not established
2-Butanone (78-93-3)	TWAs	600 mg/m3 TWA	50 ppm TWA; 145 mg/m3 TWA	200 ppm TWA [VME] (restrictive limit); 600 mg/m3 TWA [VME] (restrictive limit)	Not established	200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 600 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1)
	STELs	Not established	Not established	300 ppm STEL [VLCT] (restrictive limit); 900 mg/m3 STEL [VLCT] (restrictive limit)	Not established	Not established
	MAKs	Not established	Not established		200 ppm TWA MAK; 600 mg/m3 TWA MAK	Not established
Glass, oxide, chemicals	TWAs	Not established	1 fiber/cm3 TWA	Not established	Not established	Not established

as Glass wool fibe	er										
						as Glas fiber	s wool				
					Exposure I		/Guidelin	es (Con'	<b>t</b> )		
	Result	C	Greece		India		1	ael	L.)	Italy	Japan
Silica, amorphous (7631-86-9)			tablished		0 mg/m3 TW/ lust)	A (total	0.3 mg/m3 (airborne c otherwise classified) mg/m3 TV (respirable	3 TWA dust no ; 0.1 VA	Not estab		Not established
Cyclohexanone (108-94-1)	TWAs										25 ppm OEL; 100 mg/m3 OEL
(100 01 1)	STELs										Not established
2-Butanone	TWAs	200 pp 600 m	om TWA; g/m3 TW	2 /A n	:00 ppm TWA ng/m3 TWA	; 590	200 ppm 1	TWA	200 ppm TWA	TWA; 600 mg/m3	200 ppm OEL; 590 mg/m3 OEL
(78-93-3)	STELs		om STEL g/m3 ST		00 ppm STEL ng/m3 STEL	_; 885	300 ppm S	STEL		STEL Breve 900 mg/m3 STEL mine	Not established
Glass, oxide, chemicals as Glass wool fiber	TWAs	Not es	stablished	И	lot establishe	d	1 fiber/cm3 (respirable length >5 aspect rati except ast minerals, I under Syn vitreous fit	e fibers: µm, io >=3:1, pestiform isted thetic pers)	Not estab	lished	1 fiber/cm3 OEL as Glass wool fiber
							as Glass v				
	Ros	sult	Kore		Exposure I Malays			es (Con erlands	ι.)	NIOSH	OSHA
Silica, amorphous (7631-86-9)				-	Not establish		Not establ		6 mg/m		Not established
Cyclohexanone	TWAs	s 2	20 ppm T	WA			50 ppm T mg/m3 TV		25 ppm TWA	TWA; 100 mg/m3	50 ppm TWA; 200 mg/m3 TWA
(108-94-1)	STEL	s 5	50 ppm S	TEL			Not establ	lished	Not esta	ablished	Not established
2-Butanone	TWAs	s (1 5 n (1	200 ppm Serial No 228); 590 ng/m3 T\ Serial No 228)	o. MA	200 ppm TW mg/m3 TWA		590 mg/m	3 TWA	200 ppr mg/m3	n TWA; 590 TWA	200 ppm TWA; 590 mg/m3 TWA
(78-93-3)	STEL	s (* .s n (*	300 ppm Serial No 228); 885 ng/m3 S Serial No 228)	D. TEL	Not establish	ned	900 mg/m	3 STEL	300 ppr mg/m3	n STEL; 885 STEL	Not established
Glass, oxide, chemicals	TWAs	1 T	10 mg/m3 ГWA (Sei No. 007)		1 fiber/cm3 1 (respirable fi length >5 µn aspect ratio as determine the membrai method at 40	ibers: n, >=3:1, ed by ne filter	2 fibers/cn TGG as Glass v		<= 3.5 μ >= 10 μ	cm3 TWA (fibers um in diameter and m in length); 5 TWA (total)	Not established

			under Synthetic vitreous fibers) as Glass wool fib	er		
			Exposure Limi	its/Guidelines (Con'	t.)	
	Result		gapore	South Africa	Spain	
Silica, amorphous (7631-86-9)	TWAs	Not establishe	d	6 mg/m3 TWA (total inhalable dust); 3 mg/m3 TWA (respirable dust)	Not established	
	TWAs	20 ppm TWA				
	STELs	50 ppm STEL				
Cyclohexanone (108-94-1)	Biological Limit Values (BLV)	8 mg/L urine e cyclohexanol; end of last shi 1,2 cyclohexar	80 mg/L urine ft of workweek			
2 Dutenene	STELs	300 ppm STEI STEL	_; 885 mg/m3	300 ppm STEL; 885 mg/m3 STEL	300 ppm STEL [VLA-EC]; 90 [VLA-EC]	00 mg/m3 STEL
2-Butanone (78-93-3)	TWAs	200 ppm PEL;	590 mg/m3 PEL	200 ppm TWA; 590 mg/m3 TWA	200 ppm TWA [VLA-ED] (ind 600 mg/m3 TWA [VLA-ED] ( value)	
Glass, oxide, chemicals	TWAs	10 mg/m3 PEI as Glass wool		Not established	1 fiber/cm3 TWA [VLA-ED] ( random orientation, with a co and Alkali-earth oxide [Na2O+K2O+CaO+MgO+Ba weight; manufacturing, com use restrictions under REAC fibers: length >5 μm, aspect determined by the membran 400-450X magnification [4-n phase-contrast illumination, Synthetic vitreous fibers) as Glass wool fiber	ontent in Alkaline aO] above 18% in mercialization, and CH. Respirable ratio >=3:1, as le filter method at nm objective], using

#### **Exposure Control Notations**

China •N/A

**Czech Republic** 

•N/A

Denmark

•2-Butanone (78-93-3): Skin Notations: (Potential for cutaneous absorption) •Cyclohexanone (108-94-1): Skin Notations: (Potential for cutaneous absorption)

Greece

•N/A

Italy

•N/A Netherlands

•2-Butanone (78-93-3): Skin: (skin notation)

**Canada Ontario** 

•Cyclohexanone (108-94-1): Skin: (Absorption through skin, eyes, or mucous membranes)

Canada Quebec

•Cyclohexanone (108-94-1): Skin: (Skin designation)

France

•N/A

Spain

•N/A

ACGIH

• Cyclohexanone (108-94-1): Carcinogens: (A4 - Not Classifiable as a Human Carcinogen) | Skin: (Skin - potential significant contribution to overall exposure by the cutaneous route)

• Cyclohexanone (108-94-1): TLV Basis-Critical Effects: (upper respiratory tract and eye irritation (dust and mist))

Germany TRGS •2-Butanone (78-93-3): Skin: (skin notation)

•Cyclohexanone (108-94-1): **Skin:** (Skin notation)

Germany DFG

•2-Butanone (78-93-3): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Skin:** (skin notation) •Silica, amorphous (7631-86-9): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) •Cyclohexanone (108-94-1): **Skin:** (Skin notation)

#### Exposure Limits Supplemental

Czech Republic

•N/A

OSHA •Silico

•Silica, amorphous (7631-86-9): Mineral Dusts: (20 mppcf TWA; (80)/(% SiO2) mg/m3 TWA) ACGIH

•2-Butanone (78-93-3): **BEIs:** (2 mg/L Medium: urine Time: end of shift Parameter: MEK (nonspecific)) | **TLV Basis - Critical Effects:** (CNS and PNS impairment; upper respiratory tract irritation)

Germany TRGS

•2-Butanone (78-93-3): BELs: (5 mg/L Medium: urine Time: end of shift Parameter: 2-Butanone)

#### 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. Use explosion-proof electrical/ventilating/lighting/equipment.

#### **Personal Protective Equipment**

- Respiratory

   In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.
- Eye/Face
   Wear chemical splash safety goggles.
   Wear appropriate gloves. Wear long sleeves and/or protective coveralls.
   Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

#### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

- BEI = Biological Exposure Indices
- MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
- NIOSH = National Institute of Occupational Safety and Health
- OSHA = Occupational Safety and Health Administration
- PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)
- STEL = Short Term Exposure Limits are based on 15-minute exposures
- STEV = Short Term Exposure Value
- TLV = Threshold Limit Value determined by the American Conference of
- Governmental Industrial Hygienists (ACGIH)
- 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	Solid	Appearance/Liescription	Tan or light yellow,semi- solid sheet with slight ketone odor
Color	Tan or light yellow	Odor	Ketone

SF-104 Rev A

Odor Threshold	Data lacking		
General Properties	-		
Boiling Point	Not relevant	Melting Point	Data lacking
Decomposition Temperature	>200 C(392 F)	рН	Not relevant
Specific Gravity/Relative Density	1.2-2.0	Water Solubility	Negligible < 0.1 %
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility	-		
Vapor Pressure	Not relevant	Vapor Density	Not relevant
Evaporation Rate	Not relevant	VOC (Wt.)	<2%
VOC (Vol.)	<2%	Volatiles (Wt.)	<2%
Volatiles (Vol.)	<2%		
Flammability			
Flash Point	Not relevant	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
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 occur at elevated temperatures.

#### **10.4 Conditions to avoid**

• Avoid exposure to excessive heat and flames, sparks, or other ignition sources.

#### 10.5 Incompatible materials

• Strong acids, strong bases, strong oxidizers, amines.

#### 10.6 Hazardous decomposition products

• Acrid vapors and fumes, aliphatic and aromatic hydrocarbons of variable composition, CO, CO2, NOx, HBr, HCN

#### Section 11 - Toxicological Information

#### 11.1 Information on toxicological effects

		Components
		Acute Toxicity: Ingestion/Oral-Rat LD50 • 2737 mg/kg; Inhalation-Rat LC50 • 23500 mg/m <sup>3</sup> 8
		Hour(s); Inhalation-Human TCLo • 1000 mg/m <sup>3</sup> ; Sense Organs and Special Senses:Eye:Conjunctive irritation;
		Lungs, Thorax, or Respiration:Cough; Skin-Rabbit LD50 • 6480 mg/kg;
2-Butanone (< 1%)	78-93-3	Irritation: Eye-Human • 350 ppm; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation;
		<b>Reproductive:</b> Inhalation-Rat TCLo • 1000 ppm 7 Hour(s)(6-15D preg); <i>Reproductive Effects:Effects on Embryo</i>
		or Fetus: Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects: Specific Developmental
		Abnormalities: Musculoskeletal system

Glass, oxide, chemicals (30% T 65%)	65997- 17-3 <b>Multi-dose Toxicity:</b> Inhalation-Rat TCLo • 16 mg/m <sup>3</sup> 6 Hour(s) 13 Week(s)-Intermittent; <i>Lungs, Thorax, or</i> <i>Respiration</i> :Other changes
Potential Hea	th Effects
Inhalation	
Acute (Immediate)	<ul> <li>Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amoun of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typical reversible.</li> </ul>
Chronic (Delayed)	• No data available.
Skin	
Acute (Immediate)	May cause mild irritation.
Chronic (Delayed)	No data available.
Еуе	
Acute (Immediate)	May cause mild eye irritation (dust).
Chronic (Delayed)	No data available.
Ingestion	
Acute (Immediate)	No data available.
Chronic (Delayed)	No data available.
Mutagenic Effects	No data available.
Carcinogenic	• This product contains fibrous glass. Following a thorough review of all the medical-scientific data available at a meeting in October 2001, the LARC panel lowered the classification for fibrous glass.

• This product contains fibrous glass. Following a thorough review of all the medical-scientific data available at a meeting in October 2001, the IARC panel lowered the classification for fibrous glass from a Group 2B classification ("possibly carcinogenic to humans") to a Group 3 classification ("not classifiable as to carcinogenicity to humans"). According to IARC, there is "no evidence of increased risks of lung cancer from occupational exposures during manufacturing of these materials, and inadequate evidence overall of any cancer risk.

#### Key to abbreviations

LC = Lethal Concentration LD = Lethal Dose TC = Toxic Concentration TD = Toxic Dose **Reproductive** • No d

• No data available. Effects

#### Section 12 - Ecological Information

#### 12.1 Toxicity

• Not expected to be harmful to aquatic life.

#### 12.2 Persistence and degradability

• Material data lacking.

#### 12.3 Bioaccumulative potential

• Material data lacking.

#### 12.4 Mobility in Soil

• Material data lacking.

#### 12.5 Results of PBT and vPvB assessment

• No PBT and vPvB assessment has been conducted.

#### 12.6 Other adverse effects

• No studies have been found.

#### Section 13 - Disposal Considerations

#### 13.1 Waste treatment methods

- DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION 3: Composition Information. For UNUSED & UNCONTAMINATED PRODUCT, the preferred disposal option includes sending to a licensed, permitted waste handler and disposing with incinerator or other thermal destruction device.
- 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	NA	Not Regulated	NA	NA	NDA
TDG	NA	Not Regulated	NA	NA	NDA
IMO/IMDG	NA	Not Regulated	NA	NA	NDA
IATA/ICAO	NA	Not Regulated	NA	NA	NDA

#### 14.6 Special precautions for user

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

• None specified.

• Material not supplied in bulk form.

#### Section 15 - Regulatory Information

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

SARA Hazard Classifications				Chronic
State Right To Know				
Component	CAS	MA	NJ	PA
2-Butanone	78-93-3	Yes	Yes	Yes
Cyclohexanone	108-94-1	Yes	Yes	Yes
Silica, amorphous	7631-86-9	Yes	Yes	Yes
Glass, oxide, chemicals	65997-17- 3	Yes	No	Yes

Inventory								
Component	CAS	Canada D	SL	Canada NDSL	China	EU EIN	NECS	EU ELNICS
2-Butanone	78-93-3	Yes		No	Yes	Yes		No
Cyclohexanone	108-94-1	Yes		No	Yes	Yes		No
Silica, amorphous	7631-86-9	Yes		No	Yes	Yes		No
Glass, oxide, chemicals	65997-17- 3	Yes		No	Yes	Yes		No
				Inventory (Co	on't.)			
Componen	It	CAS		Japan ENCS	Korea K	ECL		TSCA
2-Butanone 78		8-93-3	Yes		Yes		Yes	
Cyclohexanone 1		08-94-1	Yes		Yes		Yes	
Silica, amorphous 76		631-86-9	Yes		Yes		Yes	
Glass, oxide, chemicals 65		5997-17-3	Yes		Yes		Yes	

#### Australia

#### Labor

Australia - Work Health and Safety Regulations - Hazardous Substances Requi	ring Health Monitoring	9
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Australia - High Volume Industrial Chemicals List		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	
•Silica, amorphous	7631-86-9	
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Australia - List of Designated Hazardous Substances - Classification		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	F, Xi R11, R36, R66, R67
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Environment		
Australia - National Pollutant Inventory (NPI) Substance List		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	10 tonne/yr Threshold category 1

•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Australia - Ozone Protection Act - Scheduled Substances		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Australia - Priority Existing Chemical Program		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Candidate chemical
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Canada		
Labor		
Canada - WHMIS - Classifications of Substances		
•Cyclohexanone	108-94-1	D1B, D2A, D2B
•2-Butanone	78-93-3	B2. D2B
2 Baanono	10 00 0	Uncontrolled product
•Silica, amorphous	7631-86-9	according to WHMIS
		classification criteria
•Glass, oxide, chemicals	65997-17-3	Not Listed
		Uncontrolled product
		according to WHMIS
•Glass, oxide, chemicals as Glass wool fiber		classification criteria (listed
		under Glass wool); D2A (listed under Mineral wool
		fiber)
Canada - WHMIS - Ingredient Disclosure List		lisery
•Cyclohexanone	108-94-1	1 %
•2-Butanone	78-93-3	1 %
•Silica, amorphous	7631-86-9	1 %
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
Environment		
Canada - CEPA - Priority Substances List •Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listad
		Not Listed
•Silica, amorphous	7631-86-9 65997-17-3	Not Listed Not Listed
•Glass, oxide, chemicals •Glass, oxide, chemicals as Glass wool fiber	00997-17-3	Not Listed
		Not Listed
Europe		
Other		
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification		
•Cyclohexanone	108-94-1	F, R10 C; Xn R20
•2-Butanone	78-93-3	F; R11 Xi; R36 R66 R67
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits		
•Cyclohexanone	108-94-1	C>=25% Xn R 20
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed

	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling		
	•Cyclohexanone	108-94-1	
	•2-Butanone	78-93-3	F Xi R:11-36-66-67 S:(2)-9- 16
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations		
	•Cyclohexanone	108-94-1	
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases	100.01.1	0 (0) 05
	•Cyclohexanone •2-Butanone	108-94-1	S (2)- 25
		78-93-3	S:(2)-9-16
	•Silica, amorphous •Glass, oxide, chemicals	7631-86-9 65997-17-3	Not Listed Not Listed
		05997-17-5	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		NOT LISTED
G	ermany		
Fr	nvironment		
	Germany - TA Luft - Types and Classes		
	•Cyclohexanone	108-94-1	
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	Germany - TA Luft - Emission Limits for Carcinogenic Substances		
	•Cyclohexanone	108-94-1	
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	Germany - TA Luft - Emission Limits for Fibers	100.01.1	N
	•Cyclohexanone	108-94-1	Not Listed
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber Germany - TA Luft - Emission Limits for Inorganic Dusts		Not Listed
	•Cyclohexanone	108-94-1	Not Listed
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber	00001 11 0	Not Listed
	Germany - TA Luft - Emission Limits for Inorganic Gases		
	•Cyclohexanone	108-94-1	Not Listed
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed
	•Glass, oxide, chemicals as Glass wool fiber		Not Listed
	Germany - TA Luft - Emission Limits for Organic Substances		
	•Cyclohexanone	108-94-1	
	•2-Butanone	78-93-3	Not Listed
	•Silica, amorphous	7631-86-9	Not Listed
	•Glass, oxide, chemicals	65997-17-3	Not Listed

<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
Germany - Water Classification (VwVwS) - Annex 1		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listed
		ID Number 849, not
•Silica, amorphous	7631-86-9	considered hazardous to
		water
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes		
•Cyclohexanone	108-94-1	
	70.00.0	ID Number 150, hazard
•2-Butanone	78-93-3	class 1 - low hazard to
	7004 00 0	waters
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
Germany - Water Classification (VwVwS) - Annex 3		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listed
		ID Number 849, not
•Silica, amorphous	7631-86-9	considered hazardous to
		water
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
United States		
Labor		
U.S OSHA - Process Safety Management - Highly Hazardous Chemicals		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S OSHA - Specifically Regulated Chemicals		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
		Hot Elotod
Environment		
U.S CAA (Clean Air Act) - 1990 Hazardous Air Pollutants		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
		(including mineral fiber
		emissions from facilities
		manufacturing or processing
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		glass, rock, or slag fibers [or
		other mineral derived fibers]
		of average diameter 1 µm or
U.S CERCLA/SARA - Hazardous Substances and their Reportable Quantities		less)
		5000 lb final RQ; 2270 kg
•Cyclohexanone	108-94-1	final RQ
		5000 lb final RQ; 2270 kg
•2-Butanone	78-93-3	final RQ
•Silica, amorphous	7631-86-9	Not Listed

	05007 47 0	
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S CERCLA/SARA - Radionuclides and Their Reportable Quantities •Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber	00001-11-0	Not Listed
U.S CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S CERCLA/SARA - Section 313 - Emission Reporting		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S CERCLA/SARA - Section 313 - PBT Chemical Listing	400.04.4	NI 41 5 4 1
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII •Cyclohexanone	108-94-1	
Cyclonexanone	100-94-1	Included in waste streams:
•2-Butanone	78-93-3	F005, F039
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	00997-17-3	NOLLISIEG
<ul> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Mon</li> </ul>	65997-17-3 torina	Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon		Not Listed
	toring	Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone	<b>toring</b> 108-94-1	Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone •2-Butanone	<b>toring</b> 108-94-1 78-93-3	
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Moni</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Moni</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monie-Cyclohexanone</li> <li>*2-Butanone</li> <li>*Silica, amorphous</li> <li>*Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monie-Cyclohexanone</li> <li>*2-Butanone</li> <li>*Silica, amorphous</li> <li>*Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> <li>*Cyclohexanone</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Moni •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals U.S RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents •Cyclohexanone •2-Butanone	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3	Not Listed Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals U.S RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents •Cyclohexanone •2-Butanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals •Glass, oxide, chemicals as Glass wool fiber	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed Not Listed Not Listed Not Listed Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals U.S RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed Not Listed Not Listed Not Listed Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals U.S RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents •Cyclohexanone •2-Butanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals •Glass, oxide, chemicals as Glass wool fiber	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b>
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monielectron Structure Conservation &amp; Recovery Act) - Constituents for Detection Monielectron</li> <li>*Silica, amorphous</li> <li>*Glass, oxide, chemicals</li> <li>*Cyclohexanone</li> <li>*2-Butanone</li> <li>*Silica, amorphous</li> <li>*Glass, oxide, chemicals</li> <li>*Glass, oxide, chemicals</li> <li>*Glass, oxide, chemicals</li> <li>*Glass, oxide, chemicals</li> <li>*Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Transition</li> <li>*Cyclohexanone</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 reatment Stan 108-94-1	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36
U.S RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Mon •Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals U.S RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents •Cyclohexanone •2-Butanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals •Glass, oxide, chemicals as Glass wool fiber U.S RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal The •Cyclohexanone •2-Butanone	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 reatment Stan 108-94-1 78-93-3	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36 mg/kg (nonwastewater)
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monieleveloperation</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal To</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Silica, amorphous</li> <li>Silica, amorphous</li> <li>Silica, amorphous</li> <li>Silica, amorphous</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 reatment Stan 108-94-1 78-93-3 7631-86-9	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36 mg/kg (nonwastewater) Not Listed
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monie - Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Tries</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Tries</li> <li>Cyclohexanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 teatment Stan 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36 mg/kg (nonwastewater)
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monie - Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal To</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal To</li> <li>Cyclohexanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - TSD Facilities Ground Water Monie</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 reatment Stan 108-94-1 78-93-3 7631-86-9 65997-17-3 ritoring	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36 mg/kg (nonwastewater) Not Listed
<ul> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Constituents for Detection Monie - Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - List for Hazardous Constituents</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Tries</li> <li>Cyclohexanone</li> <li>2-Butanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals as Glass wool fiber</li> <li>U.S RCRA (Resource Conservation &amp; Recovery Act) - Phase 4 LDR Rule - Universal Tries</li> <li>Cyclohexanone</li> <li>Silica, amorphous</li> <li>Glass, oxide, chemicals</li> </ul>	toring 108-94-1 78-93-3 7631-86-9 65997-17-3 108-94-1 78-93-3 7631-86-9 65997-17-3 teatment Stan 108-94-1 78-93-3 7631-86-9 65997-17-3	Not Listed Not Listed Not Listed Not Listed Not Listed <b>dards</b> 0.28 mg/L (wastewater); 36 mg/kg (nonwastewater) Not Listed

•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
U.S RCRA (Resource Conservation & Recovery Act) - U Series Wastes - Acutely To	oxic Wastes & Ot	her Hazardous
Characteristics •Cyclohexanone	108-94-1	
•Cyclonexanone	100-94-1	waste number U159
•2-Butanone	78-93-3	(Ignitable waste, Toxic waste)
•Silica, amorphous	7631-86-9	Not Listed
United States - California		
Environment		
U.S California - Proposition 65 - Carcinogens List		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
	00007 17 0	carcinogen, initial date
•Glass, oxide, chemicals as Glass wool fiber		7/1/90 (inhalable and
		biopersistent)
U.S California - Proposition 65 - Developmental Toxicity		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
U.S California - Proposition 65 - No Significant Risk Levels (NSRL)		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
<ul> <li>Glass, oxide, chemicals as Glass wool fiber</li> </ul>		Not Listed
U.S California - Proposition 65 - Reproductive Toxicity - Female		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
U.S California - Proposition 65 - Reproductive Toxicity - Male		
•Cyclohexanone	108-94-1	Not Listed
•2-Butanone	78-93-3	Not Listed
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
•Glass, oxide, chemicals as Glass wool fiber		Not Listed
United States - Pennsylvania		
Labor		
U.S Pennsylvania - RTK (Right to Know) - Environmental Hazard List		
•Cyclohexanone	108-94-1	
•2-Butanone	78-93-3	
•Silica, amorphous	7631-86-9	Not Listed
•Glass, oxide, chemicals	65997-17-3	Not Listed
IIS - Donneylyania - PTK (Pight to Know) - Special Hazardous Substances		

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

•Cyclohexanone •2-Butanone •Silica, amorphous •Glass, oxide, chemicals 108-94-178-93-3Not Listed7631-86-9Not Listed65997-17-3Not Listed

#### **15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out.

#### **15.3 Other Information**

WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

#### **Section 16 - Other Information**

#### Relevant Phrases (code & full text)

Last Revision Date Preparation Date	<ul> <li>H226 - Flammable liquid and vapour H312 - Harmful in contact with skin H332 - Harmful if inhaled R10 - Flammable. R20/21 - Harmful by inhalation and in contact with skin.</li> <li>12/July/2021</li> <li>31/May/2015</li> </ul>
Disclaimer/Statement of Liability	• The information and recommendations contained in this Safety Data Sheet (SDS) are supplied pursuant to the Occupational Safety and Health Administration's Hazard Communication Standard as promulgated under 29 CFR 1910.1200 and the United States Environmental Protection Agency's Supplier Notification Rule as promulgated under 40 CFR 372.45. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in the proper procedures of safe chemical handling. The information contained herein is provided in good faith with no representation as to its comprehensiveness or accuracy. No representations or warranties, either express or implied, of merchantability, or fitness for a particular purpose or of any nature are made with respect to the material described in this Safety Data Sheet. Chemical additions or processing or otherwise altering this material may make the safety information presented in this Safety Data Sheet incomplete, inaccurate or otherwise inappropriate. The information listed above does not include all state, federal, and international regulations. The regulatory information supplied may change from time to time. It is the user's responsibility to keep advised of all applicable regulatory requirements.