L - 301 PART A RESIN

Revision Date 08/29/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name L - 301 PART A RESIN

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

Uses of the Substance / Mixture

- Engineered materials

1.3 Details of the supplier of the safety data sheet

Company

CYTEC INDUSTRIES INC.
COMPOSITE MATERIALS
504 CARNEGIE CENTER PRINCETON, NJ 08540 USA
Tel: +1-833-970-1163

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.3 Other hazards which do not result in classification

- Polymerisation may occur from excessive heat, contamination or exposure to direct sunlight.
- Use mechanical exhaust ventilation when heat-curing material.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Silica, amorphous, fumed, cryst.-free	112945-52-5	1 - 4
Talc (Mg3H2(SiO3)4)	14807-96-6	2 - 6
Carbon black	1333-86-4	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Move to fresh air.
- Get medical attention immediately if symptoms occur.

In case of skin contact

- Use appropriate protective equipment when treating a contaminated person.

In case of eye contact

- Rinse with running water whilst keeping the eyes wide open.

In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- No hazards to be specially mentioned.

Repeated or prolonged exposure

- slight irritation

Symptoms

- At high concentrations:
- slight irritation
- Redness
- Redness of the conjunctiva

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- When symptoms persist or in all cases of doubt seek medical advice.

SECTION 5: Firefighting measures

Flash point	> 392 °F (> 200 °C)
Autoignition temperature	No data available
Flammability / Explosive limit	Lower flammability/explosion limit : Not applicable Upper flammability/explosion limit : Not applicable

5.1 Extinguishing media

Suitable extinguishing media

- Water spray
- Foam
- Carbon dioxide (CO2)
- Multipurpose powders

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Under fire conditions:
- Will burn
- On combustion, toxic gases are released.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For further information refer to section 8 "Exposure controls / personal protection."

6.2 Environmental precautions

- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Contain the spilled material by diking.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.

- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

6.3 Methods and materials for containment and cleaning up

- Stop leak if safe to do so.
- Sweep up and shovel into suitable containers for disposal.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Wash nonrecoverable remainder with large amounts of water.
- Soak up with inert absorbent material.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Provide good ventilation of working area (local exhaust ventilation if necessary).

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Storage period: 6 - 12 Months

Recommended storage temperature: 77 °F (25 °C)

- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
Silica, amorphous, fumed, cryst.-free	TWA	6 mg/m3	National Institute for Occupational Safety and Health
	Expressed as :Silica		
Silica, amorphous, fumed, cryst.-free	TWA	20 Million particles per cubic foot	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
	Form of exposure : Dust Based on impinger samples counted by light-field techniques., mppcf X 35.3 = million particles per cubic meter = particles per c.cExpressed as :Silica		
Silica, amorphous, fumed, cryst.-free	TWA	80 mg/m3 / %SiO2	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts

	Form of exposure : Dust Expressed as :Silica		
Silica, amorphous, fumed, cryst.-free	PEL	6 mg/m3	
Silica, amorphous, fumed, cryst.-free	TWA	4 mg/m3	Solvay Acceptable Exposure Limit
Talc (Mg3H2(SiO3)4)	TWA	20 Million particles per cubic foot	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
	Form of exposure : Dust Based on impinger samples counted by light-field techniques., Containing less than 1% quartz; if 1% quartz or more, use quartz limit., mppcf X 35.3 = million particles per cubic meter = particles per c.c		
Talc (Mg3H2(SiO3)4)	TWA	2 mg/m3	National Institute for Occupational Safety and Health
	Form of exposure : Respirable		
Talc (Mg3H2(SiO3)4)	TWA	2 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable fraction		
Talc (Mg3H2(SiO3)4)			Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
	Dust, Use asbestos limit		
Talc (Mg3H2(SiO3)4)	PEL	2 mg/m3	
	Form of exposure : Respirable dust		
Talc (Mg3H2(SiO3)4)			
	see Section 5208		
Carbon black	TWA	3.5 mg/m3	National Institute for Occupational Safety and Health
Carbon black	TWA	3.5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Carbon black	TWA	0.1 mg/m3	National Institute for Occupational Safety and Health
	Potential Occupational Carcinogen, Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs), See Appendix C, See Appendix AExpressed as :PAHs		
Carbon black	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable fraction		
Carbon black	PEL	3.5 mg/m3	

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Talc (Mg3H2(SiO3)4)	14807-96-6	1000 mg/m³
Carbon black	1333-86-4	1750 milligram per cubic meter

8.2 Exposure controls

Control measures

Engineering measures
- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection
- Keep in a well-ventilated place.

Hand protection
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Eye protection
- If splashes are likely to occur, wear:
- Chemical resistant goggles must be worn.

Skin and body protection
- If splashes are likely to occur, wear:
- Protective suit

Hygiene measures
- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	Form:	Resin(s)
	Physical state:	liquid
	Color:	black
Odor	slight	
Odor Threshold	No data available	
Molecular weight	Mixture	

pH	Not applicable
Melting point/freezing point	Melting point/range: Not applicable
Initial boiling point and boiling range	Boiling point/boiling range: Not applicable
Flash point	> 392 °F (> 200 °C)
Evaporation rate (Butylacetate = 1)	Not applicable
Flammability (solid, gas)	No data available
Flammability (liquids)	No data available
Flammability / Explosive limit	Lower flammability/explosion limit: Type: Lower explosion limit Not applicable Upper flammability/explosion limit: Type: Upper flammability limit Not applicable
Autoignition temperature	No data available
Vapor pressure	Not applicable
Vapor density	No data available
Density	1.3 g/cm3
Relative density	No data available
Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	Not considered as oxidizing.

9.2 Other information

No data available

Peroxides	The substance or mixture is not classified as organic peroxide.

SECTION 10: Stability and reactivity

10.1 Reactivity

- no data available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

polymerization
- Hazardous polymerization may occur.

10.4 Conditions to avoid

- Keep away from heat, sparks and flame.
- Heat.

10.5 Incompatible materials

- Oxidizing agents
- Acids and bases

10.6 Hazardous decomposition products

- Carbon oxides
- Thermal decomposition can lead to release of toxic and corrosive gases.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	Not classified as hazardous for acute oral toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute inhalation toxicity	Not classified as hazardous for acute inhalation toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute dermal toxicity	Not classified as hazardous for acute dermal toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute toxicity (other routes of administration)	Not applicable

Skin corrosion/irritation

Not classified as irritating to skin
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Serious eye damage/eye irritation

Not classified as irritating to eyes
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Respiratory or skin sensitization

Does not cause skin sensitization.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Does not cause respiratory sensitization.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Mutagenicity

Genotoxicity in vitro

Product is not considered to be genotoxic
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Genotoxicity in vivo

Product is not considered to be genotoxic
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Carcinogenicity

The product is not considered to be carcinogenic.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Components	CAS-No.	Rating	Basis
Carbon black	1333-86-4	Group 2B: Possibly carcinogenic to humans	IARC
Talc (Mg3H2(SiO3)4)	14807-96-6		

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility	The product is not considered to affect fertility.,According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Developmental Toxicity/Teratogenicity	The product is not considered to be toxic for development.,According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.

STOT

STOT-single exposure	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
STOT-repeated exposure	The substance or mixture is not considered to cause damage to organs through prolonged or repeated exposure. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data. The product itself has not been tested.

Neurological effects

Silica, amorphous, fumed, cryst.-free	No neurotoxic effects observed.

Experience with human exposure

Experience with human exposure : Inhalation

No data is available on the product itself.

Experience with human exposure : Skin contact

No data is available on the product itself.

Experience with human exposure : Eye contact

No data is available on the product itself.

Experience with human exposure : Ingestion

No data is available on the product itself.

CMR effects

Carcinogenicity

Carbon black	Not classified as a carcinogen according to GHS criteria: the mechanism or mode of action of tumour formation is considered not relevant for humans.

Aspiration toxicity	No aspiration toxicity classification, According to the available data on the components, According to the classification criteria for mixtures.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish	The product itself has not been tested.
Acute toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested.
Toxicity to aquatic plants	The product itself has not been tested.
Toxicity to microorganisms	The product itself has not been tested.
Chronic toxicity to fish	The product itself has not been tested.
Chronic toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested.

Sediment compartment

Toxicity to benthic organisms	The product itself has not been tested.

Terrestrial Compartment

Toxicity to soil dwelling organisms	The product itself has not been tested.
Toxicity to terrestrial plants	The product itself has not been tested.
Toxicity to above ground organisms	The product itself has not been tested.

12.2 Persistence and degradability

Abiotic degradation

Stability in water	Conclusion is not possible for a mixture as a whole.
Photodegradation	Conclusion is not possible for a mixture as a whole.
Other Physicochemical reactions	Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability	Conclusion is not possible for a mixture as a whole.

Biodegradation

Biodegradability	As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).
Ratio BOD / COD	Conclusion is not possible for a mixture as a whole.
Ratio BOD / ThOD	Conclusion is not possible for a mixture as a whole.
Biochemical Oxygen Demand (BOD)	Conclusion is not possible for a mixture as a whole.
Dissolved organic carbon (DOC)	Conclusion is not possible for a mixture as a whole.
Chemical Oxygen Demand (COD)	Conclusion is not possible for a mixture as a whole.
Adsorbed organic bound halogens (AOX)	Conclusion is not possible for a mixture as a whole.
Degradability assessment	Conclusion is not possible due to incomplete or heterogeneous data on the components Unpublished reports Published data

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	Conclusion is not possible for a mixture as a whole.
Bioconcentration factor (BCF)	As bioaccumulation is not relevant for mixtures, all the components of the mixture were assessed individually. Conclusion is not possible due to incomplete or heterogeneous data on the components Unpublished reports Published data

12.4 Mobility in soil

Adsorption potential (Koc)	Conclusion is not possible for a mixture as a whole.
Known distribution to environmental compartments	Conclusion is not possible due to incomplete or heterogeneous data on the components

12.5 Results of PBT and vPvB assessment	This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB). According to the available data on the components

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard	No acute environmental hazard identified. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Long-term (chronic) aquatic hazard	No chronic environmental hazard identified. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14: Transport information

DOT
not regulated

TDG
not regulated

NOM
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- One or more components not listed on inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

No SARA Hazards

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Oxirane, 2-(chloromethyl)-	106-89-8	100 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Oxirane, 2-(chloromethyl)-	106-89-8	100 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Components	CAS-No.	Reportable quantity
Benzene, methyl-	108-88-3	1000 lb
Oxirane, 2-(chloromethyl)-	106-89-8	100 lb

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product is not sold or intended to be sold as a "consumer product" as defined under California's Proposition 65 statute and regulations. If you require information, please contact your local sales representative.

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	1 slight
Instability or Reactivity	0 minimal

Further information

- Distribute new edition to clients

Date Prepared: 08/29/2019

Key or legend to abbreviations and acronyms used in the safety data sheet

- PEL — Permissible exposure limit
- TWA — 8-hour, time-weighted average
- SAEL — Solvay Acceptable Exposure Limit
- ACGIH — American Conference of Governmental Industrial Hygienists
- OSHA — Occupational Safety and Health Administration
- NTP — National Toxicology Program
- IARC — International Agency for Research on Cancer
- NIOSH — National Institute for Occupational Safety and Health

SOLVAY

SDS: 0056705
Date Prepared: 01/04/2019

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: **L - 301 Part B Resin**

Product Description: Epoxy hardener
Synonyms: None
Chemical Family: Epoxy hardener
Molecular Formula: Mixture
Molecular Weight: Mixture
Intended/Recommended Use: Engineered materials

CYTEC INDUSTRIES INC., 504 CARNEGIE CENTER, PRINCETON, NEW JERSEY 08540, USA
For Product and all Non-Emergency Information call 1-800/652-6013. Outside the USA and Canada call **1-973/357-3193.**

EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:
Asia Pacific:
Australia - +61 2 8014 4558 (Carechem24)
China (PRC) - +86 0532 83889090 (NRCC) +86 512 8090 3042 (Carechem24)
New Guinea - +61 2 8014 4558 (Carechem24)
New Zealand - +64 9 929 1483 (Carechem24)
India, Japan, Korea, Malaysia, Thailand - +65 3158 1074 (Carechem24 Singapore)
India (Hindi Speaking Only) - +65 3158 1198 or 000800 100 7479 (Carechem24 Singapore)
Canada: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)
Europe/Africa/Middle East (Carechem24 UK):
Europe, Middle East, Africa, Israel - +44 1235 239 670
(Arabic speaking countries) - +44 1235 239 671
Latin America:
Brazil - +55 11 3197 5891 (Carechem24)
Chile - +56 2 2582 9336 (Carechem24)
All Others - +44 1235 239 670 (Carechem24 UK)
USA: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)

2. HAZARDS IDENTIFICATION

GHS Classification
Acute Toxicity (Inhalation) Hazard Category 3
Skin Corrosion / Irritation Hazard Category 1B
Serious Eye Damage / Eye Irritation Hazard Category 1
Skin Sensitizer Hazard Category 1A
Aquatic Environment Acute Hazard Category 2
Aquatic Environment Chronic Hazard Category 2

LABEL ELEMENTS

Signal Word
Danger

Hazard Statements
Toxic if inhaled
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Toxic to aquatic life with long lasting effects

Precautionary Statements
Use only outdoors or in a well-ventilated area.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards
Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Mixture

HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification	Carcinogen
Polyamide -	72 - 80	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)	-
Diethylenetriamine 111-40-0	5 - 8	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 2 (H330) STOT Single 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1B (H317)	-
Silicon dioxide, amorphous 112945-52-5	4 - 6	Not Classified	-

Component / CAS No.	%	GHS Classification	Carcinogen
Triethylenetetramine 112-24-3	3 - 7	Acute Tox. 4 (H312) Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1B (H317) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)	-

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

4. FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

Skin Contact:
Wash immediately with plenty of water and soap. Remove contaminated clothing and shoes without delay. Obtain medical attention. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

Ingestion:
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Apply artificial respiration if patient is not breathing. Obtain medical attention immediately.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:
Use water spray or fog, carbon dioxide or dry chemical.

Extinguishing Media to Avoid:
full water jet

Protective Equipment:
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:
Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Methods For Cleaning Up:
Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

References to other sections:
See Sections 8 and 13 for additional information.

7. HANDLING AND STORAGE

HANDLING

Precautions: Avoid release to the environment. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary).

STORAGE
Store in accordance with local, state, and federal regulations.

Storage Temperature: Store at 25 °C 77 °F
Reason: Quality.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:
Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

Respiratory Protection:
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding or sanding of parts fabricated after curing may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to components listed above for potential hazardous components in the dust.

Eye Protection:
Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

Skin Protection:
Prevent contamination of skin or clothing when removing protective equipment. Barrier creams may be used in conjunction with the gloves to provide additional skin protection. Wear impermeable gloves and suitable protective clothing.

Hand Protection:
Nitrile or fluorinated rubber gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditons in the work place. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Additional Advice:
Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

Exposure Limit(s)

The below constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

111-40-0 Diethylenetriamine

OSHA (PEL):	Not established
ACGIH (TLV):	(skin) 1 ppm (TWA)
Other Value:	Not established

112945-52-5 Silicon dioxide, amorphous

OSHA (PEL):	20 mppcf
ACGIH (TLV):	Not established
Other Value:	Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	amber
Appearance:	solid resin
Odor:	amine
Boiling Point:	Not applicable
Melting Point:	>93.33 °C 200 °F
Vapor Pressure:	Not applicable
Specific Gravity/Density:	1.0
Vapor Density:	Not available
Percent Volatile (% by wt.):	Not applicable
pH:	Not applicable
Saturation In Air (% By Vol.):	Not applicable
Evaporation Rate:	Not applicable
Solubility In Water:	Not available
Volatile Organic Content:	Not available
Flash Point:	Not applicable
Flammability (solid, gas):	Not available
Flammable Limits (% By Vol):	Not applicable
Autoignition (Self) Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available

DUST HAZARD INFORMATION

Particle Size (microns):	Not available
Kst (bar-m/sec):	Not available
Maximum Explosion Pressure (Pmax):	Not available
Dust Class:	Not available
Minimum Ignition Energy (MIE) (mJ):	Not available
Minimum Ignition Temperature (MIT) (°C):	Not available
Minimum Explosive Concentration (MEC) (g/m³):	Not available
Limiting Oxygen Concentration (LOC) (%):	Not available

10. STABILITY AND REACTIVITY

Reactivity:	No information available
Stability:	Stable
Conditions To Avoid:	Keep away from heat, spark and flame.
Polymerization:	May occur
Conditions To Avoid:	Protect from heat.
Materials To Avoid:	Acids
Hazardous Decomposition Products:	oxides of carbon Oxides of nitrogen nitric acid When heated to decomposition, it emits toxic fumes. ammonia nitrosamines

11. TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY INFORMATION

Likely Routes of Exposure: Skin, Eyes, Oral.

ACUTE TOXICITY DATA

oral	rat	Acute LD50	>2000 mg/kg
dermal	rabbit	Acute LD50	>2000 mg/kg
inhalation	rat	Acute LC50 4 hr	~1 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	skin	Corrosive
Acute Irritation	eye	Causes serious damage

ALLERGIC SENSITIZATION

Sensitization	skin	Sensitizing
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations
Ames Salmonella Assay No data

OTHER INFORMATION
The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Polyamide has acute oral (rat-female) and acute dermal (rat) LD50 values of >2000 g/kg and >2000 mg/kg, respectively. Direct contact with this material may produce moderate skin irritation and severe eye irritation. This material produced dermal sensitization when tested in the Local Lymph Node Assay.This substance is not mutagenic in the Ames Assay. Based on testing conducted a structurally similar substance (analog) this material is not expected to be mutagenic in the in vitro Mouse Lymphoma Assay and not clastogenic in the in vitro Chromosomal Aberrations Assay

Diethylenetriamine has acute oral (rat) LD50 values of 1620 mg/kg. Diethylenetriamine has acute dermal (rabbit) LD50 values of 1090 mg//kg. The LC50 value (rat, aerosol, 4 hr) is 0.07 - 0.3 mg/l. No mortality was seen in rats exposed to 300 ppm for 8-hours. This substance may cause respiratory tract irritation. Repeated inhalation exposures can cause asthmatic type responses. Direct contact with Diethylenetriamine may cause severe irritation and/or irreversible damage (burns) to the eyes and skin. Repeated or prolonged dermal contact may cause allergic skin reactions. In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests. The substance showed no carcinogenic activity in animals after chronic administration to the skin. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

Silicon Dioxide has acute oral (rat) LD50 values ranging from 3160 mg/kg to >7500 mg/kg. The LC50 (rat) following a 4-hour inhalation study is >0.25 mg/L (maximum attainable concentration). Chronic and sub-chronic inhalation tests with laboratory animals produced lung damage and death after the lung clearance mechanisms were overloaded. Amorphous silica does not cause the lung diseases crystalline silica is known to cause.

Triethylenetetramine (TETA) has acute oral (rat) and acute dermal (rabbit) LD50 values of 1716 mg/kg and 1465 mg/kg, respectively. Direct contact with TETA can produce severe skin irritation with necrosis and moderate to severe eye irritation. Skin contact may cause an allergic skin reaction. Inhalation of TETA may cause respiratory tract irritation/burns and potential respiratory sensitization in sensitive individuals. TETA was mutagenic in the Ames test and produced genetic damage in an E. coli differential repair assay but did not induce chromosomal aberrations in the in vivo mouse micronucleus assay. TETA did not exhibit carcinogenic potential in a lifetime mouse skin painting study.

12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

The ecological assessment for this material is based on an evaluation of its components.

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Polyamide	ErC50 = 4.11 mg/L - Green Algae (72h)	LC50 = 1-10 mg/L - Zebrafish (96h)	EC50 = 1-10 mg/L - Daphnia Magna (48h)

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Diethylenetriamine 111-40-0	EC50 = 345.6 mg/L - Pseudokirchneriella subcapitata (96h) EC50 = 1164 mg/L - Pseudokirchneriella subcapitata (72h) EC50 = 592 mg/L - Desmodesmus subspicatus (96h)	LC50 = 248 mg/L - Poecilia reticulata (96h) static LC50 = 1014 mg/L - Poecilia reticulata (96h) semi-static	EC50 = 16 mg/L - Daphnia magna (48h)
Silicon dioxide, amorphous 112945-52-5	EC50 = 440 mg/L - Pseudokirchneriella subcapitata (72h)	LC50 = 5000 mg/L - Brachydanio rerio (96h) static	EC50 = 7600 mg/L - Ceriodaphnia dubia (48h)
Triethylenetetramine 112-24-3	EC50 = 3.7 mg/L - Pseudokirchneriella subcapitata (96h) EC50 = 20 mg/L - Pseudokirchneriella subcapitata (72h) EC50 = 2.5 mg/L - Desmodesmus subspicatus (72h)	LC50 = 570 mg/L - Poecilia reticulata (96h) semi-static LC50 = 495 mg/L - Pimephales promelas (96h)	EC50 = 31.1 mg/L - Daphnia magna (48h)

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Dangerous Goods? X
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Class: 6.1
Packing Group: II
UN/ID Number: UN2923
Transport Label Required: Corrosive
Toxic
Marine Pollutant

Marine Pollutant
Technical Name (N.O.S.): Diethylenetriamine, Polyamide

Comments: Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

TRANSPORT CANADA

Dangerous Goods? X
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Class: 6.1
Packing Group: II
UN Number: UN2923
Transport Label Required: Corrosive
Toxic
Marine Pollutant
Marine Pollutant
Technical Name (N.O.S.): diethylenetriamine, Polyamide

ICAO / IATA

Dangerous Goods? X
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Class: 6.1
Packing Group: II
UN Number: UN2923
Transport Label Required: Corrosive
Toxic
Marine Pollutant
Technical Name (N.O.S.): Polyamide, diethylenetriamine

Comments: Marine Pollutants-IATA Special Provision A197 when transported in single or combination packagings containing a net quantity per single or inner packaging of 5L or less for liquids or 5 kg for solids, are not subject to any provisions of these regulations. Note if the material also meets the criteria under additional hazard classes then all requirements continue to apply for those hazards.

IMO

Dangerous Goods? X
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Hazard Class: 8
Subsidiary Class: 6.1
UN Number: UN2923
Packing Group: II
Transport Label Required: Corrosive
Toxic
Marine Pollutant
Marine Pollutant
Technical Name (N.O.S.): Diethylenetriamine, Polyamide

Comments: Marine Pollutants -IMDG 2.10.2.7 when packaged in single or combination packagings, containing a net quantity per single or inner packaging of 5L or less for liquids or 5 kg for solids are not subject to any other provisions of this code. Note if the material also meets the criteria under additional hazard classes then all requirements continue to apply for those hazards.

15. REGULATORY INFORMATION

Inventory Information

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

European Economic Area (including EU): Cytec has appointed an Only Representative to relieve our customers from their registration requirements under the REACH Regulation (EC) No. 1907/2006. Please contact us if you wish to benefit from the OR arrangement.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

Taiwan: All components of this product are included on the Taiwan Chemical Substance Inventory (TCSI) or are not required to be listed on the Taiwan inventory.

OTHER ENVIRONMENTAL INFORMATION
The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA
- Acute

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product is not sold or intended to be sold as a "consumer product" as defined under California's Proposition 65 statute and regulations. If you require information, please contact your local sales representative.

16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)
Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: Revised Section 15

Date Prepared: 01/04/2019

Date of last significant revision: 01/18/2017

Component Hazard Phrases
Polyamide
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H317 - May cause an allergic skin reaction.
H401 - Toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.
Diethylenetriamine
H302 - Harmful if swallowed.
H312 - Harmful in contact with skin.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H330 - Fatal if inhaled.
H335 - May cause respiratory irritation.
Triethylenetetramine
H302 - Harmful if swallowed.
H312 - Harmful in contact with skin.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H402 - Harmful to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

Prepared By: Legal & Compliance Services; E-mail: custinfo@solvay.com