SDS: 0011236
Date Prepared: 08/25/2018

SAFETY DATA SHEET

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1. IDENTIFICATION

Product Name:	**CYMEL® U-646 Resin**
Synonyms:	Isobutylated urea formaldehyde resin
Product Description:	Isobutylated urea-formaldehyde resin in isobutanol
Molecular Formula:	Polymer
Molecular Weight:	Polymer
Intended/Recommended Use:	Raw material for surface coatings

Allnex USA Inc., 9005 Westside Parkway, Alpharetta, Georgia 30009, USA
For Product and all Non-Emergency Information call your local Allnex contact point or contact us at http://www.allnex.com/contact

EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:
+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)
See Section 16 for Emergency phone numbers for other regions.

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2. HAZARDS IDENTIFICATION

GHS Classification
Flammable Liquids Hazard Category 3
Carcinogenicity Hazard Category 1B
Germ Cell Mutagenicity Hazard Category 2
Specific Target Organ Toxicity - Repeated Exposure Hazard Category 2
Specific Target Organ Toxicity - Single Exposure Hazard Category 3
Skin Corrosion / Irritation Hazard Category 2
Serious Eye Damage / Eye Irritation Hazard Category 1
Skin Sensitizer Hazard Category 1A
Aquatic Environment Acute Hazard Category 3
Aquatic Environment Chronic Hazard Category 4

LABEL ELEMENTS

Signal Word
DANGER

Hazard Statements

Flammable liquid and vapor
May cause cancer
Suspected of causing genetic defects
May cause damage to organs through prolonged or repeated exposure
May cause drowsiness or dizziness
May cause respiratory irritation
Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
Harmful to aquatic life
May cause long lasting harmful effects to aquatic life

Precautionary Statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Wash face, hands and any exposed skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use CO2, dry chemical, or foam to extinguish.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Store in a well-ventilated place. Keep cool.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards
Not applicable

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3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification	Carcinogen
Urea P/W formaldehyde, isobutylated 68002-18-6	68 - 72	Aquatic Chronic 4 (H413)	-
Isobutanol 78-83-1	22 - 24	Flam. Liq. 3 (H226) STOT SE 3 (H335) STOT SE 3 (H336) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-
Xylene 1330-20-7	2 - 4	Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Acute Tox. 4 (H332) STOT RE 2 (H373)	-

		STOT Single 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Asp. Tox. 1 (H304)	
Formaldehyde 50-00-0	1.8 - 2.0	Carc. 1B (H350) Muta. 2 (H341) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 2 (H401)	IARC 1 NTP ACGIH A2
Ethylbenzene 100-41-4	~ 0.6	Flam. Liq. 2 (H225) Acute Tox. 4 (H332) STOT RE 2 (H373) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)	IARC 2B ACGIH A3
Methanol 67-56-1	0 - 0.3	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) Skin Irrit. 3 (H316) Eye Irrit. 2B (H320)	-

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.

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4. FIRST AID MEASURES

First-aid Measures

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

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.

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

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.

Most Important Symptoms and Effects, Acute and Delayed
None known.

Immediate Medical Attention and Special Treatment
Not applicable.

Notes To Physician:

No specific measures have been identified.

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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:
Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

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

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

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6. ACCIDENTAL RELEASE MEASURES

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

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

Environmental Precautions:
Avoid release to the environment.

References to other sections:
See Sections 7, 8 and 13 for additional information.

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7. HANDLING AND STORAGE

HANDLING

Precautions: Keep away from heat, sparks and open flame. - No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and other equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment. Use only outdoors or in a well-ventilated area. Avoid breathing vapors or spray mist.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary). During processing and handling of the product, comply with the indicative occupational exposure limit values. Containers must be bonded and grounded when pouring or transferring material.

STORAGE
Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material`s flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.

Storage Temperature: Store at -20 - 30 °C -4 - 86 °F
Reason: Quality.

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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:
For operations where inhalation exposure can occur use an approved respirator. Recommendations are listed below. Other protective respiratory equipment may be used based on user's own risk assessment.
Recommended respirators include those certified by NIOSH.

Recommended:
Full Face Mask with organic vapor cartridge, Type A filter (BP >65°C)

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. Wear impermeable gloves and suitable protective clothing. Barrier creams may be used in conjunction with the gloves to provide additional skin protection.

Hand Protection:
Wear protective gloves. Recommendations are listed below. Other protective materials may be used based on user's own risk assessment. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc.) is noticed.

Gloves for repeated or prolonged exposure - non exhaustive list:
Polyethylene Nylon (PE), thickness: > 0.062 mm, break through time: > 480 min

Gloves for short term exposure/splash protection - non exhaustive list:
Nitrile rubber (NBR), thickness: 0.38 mm, break through time: up to 240 min

The chemical resistance depends on the type of product and amount of product on the glove. Therefore gloves need to be changed when in contact with chemicals.

Not suitable gloves - non exhaustive list:
Natural rubber (NRL), thickness: 0.75 mm
Polyvinyl alcohol (PVA), thickness: 0.2-0.3 mm

Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing. Use PE gloves as under gloves for difficult situations like for instance: high exposure, unknown composition or unknown properties of the chemicals.

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. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

Exposure Limit(s)

78-83-1 Isobutanol

OSHA (PEL):	100 ppm (TWA) 300 mg/m³ (TWA)
ACGIH (TLV):	50 ppm (TWA)
Other Value:	Not established

1330-20-7 Xylene

OSHA (PEL):	100 ppm (TWA) 435 mg/m³ (TWA)
ACGIH (TLV):	150 ppm (STEL) 100 ppm (TWA)
Other Value:	Not established

50-00-0 Formaldehyde

OSHA (PEL):	0.75 ppm (TWA) 2 ppm (STEL) 2 ppm STEL 15 min 0.5 ppm Action Level 0.75 ppm TWA
ACGIH (TLV):	0.3 ppm (Ceiling)
Other Value:	Not established

100-41-4 Ethylbenzene

OSHA (PEL):	100 ppm (TWA) 435 mg/m³ (TWA)
ACGIH (TLV):	20 ppm (TWA)
Other Value:	Not established

67-56-1 Methanol

OSHA (PEL):	200 ppm (TWA) 260 mg/m³ (TWA)
ACGIH (TLV):	250 ppm (STEL) (skin) 200 ppm (TWA)
Other Value:	Not established

Biological Exposure Limit(s)

Xylene 1330-20-7

Biological Exposure Indices (ACGIH)	1.5 g/g creatinine (urine - end of shift)

Ethylbenzene 100-41-4

Biological Exposure Indices (ACGIH)	0.15 g/g creatinine (urine - end of shift)

Methanol 67-56-1

Biological Exposure Indices (ACGIH)	15 mg/L (urine - end of shift)

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9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	colorless
Appearance:	liquid
Odor:	formaldehyde and isobutanol
Boiling Point:	Not applicable
Melting Point:	Not applicable
Vapor Pressure:	Not available
Specific Gravity/Density:	1.04 g/cm³ @ 20 °C
Vapor Density:	> 1
Percent Volatile (% by wt.):	~ 35
pH:	Not applicable

Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	< 1
Solubility In Water:	Insoluble
Volatile Organic Content:	Not available
Flash Point:	34 °C 93 °F Setaflash Closed Cup
Flammable Limits (% By Vol):	Not available
Autoignition Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	Not available
Explosive Properties:	Not available
Oxidizing Properties:	Not available

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Stable.

Conditions To Avoid: None known.

Polymerization: Will not occur

Conditions To Avoid: None known.

Materials To Avoid: No specific incompatibility

Hazardous Decomposition Products: Formaldehyde
butanol
oxides of nitrogen
Carbon monoxide (CO)

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Oral, Skin, Eyes, Respiratory System.

Acute toxicity - oral: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - dermal: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - inhalation: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

Skin corrosion / irritation: Causes skin irritation
Serious eye damage / eye irritation: Causes serious eye damage

Respiratory sensitization: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Skin sensitization: May cause an allergic skin reaction

Carcinogenicity: May cause cancer
Germ cell mutagenicity: Suspected of causing genetic defects
Reproductive toxicity: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure: May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity (STOT) - repeated exposure: May cause damage to organs through prolonged or repeated exposure.
Route of Exposure: inhalation **Affected Organs:** Ears, Liver, Kidneys, Central nervous system

Aspiration hazard: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Irritating
Acute Irritation	eye	Causes serious damage

ALLERGIC SENSITIZATION

Sensitization	dermal	Sensitizing
Sensitization	inhalation	No data

Specific target organ toxicity (repeated exposure): May cause damage to central nervous system, liver and kidneys through prolonged or repeated exposure by inhalation. May cause damage to ears through prolonged or repeated exposure by inhalation. .

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data

OTHER INFORMATION
The product toxicity information above has been estimated.

11. TOXICOLOGICAL INFORMATION

HAZARDOUS INGREDIENT TOXICITY DATA

Isobutanol has acute oral (rat) and dermal (rabbit) LD50 values of 2.46 g/kg and 2.46 - 3.4 g/kg, respectively. The LC50 (rat) following a 4-hour inhalation exposure is >8000 ppm (24.24 mg/L). Acute overexposure to isobutanol vapor can cause irritation to the eyes (severe), skin (moderate), and mucous membranes, as well as, central nervous system depression. Literature reports that acute oral exposure to isobutanol has produced CNS effects in animals. Direct contact with isobutanol may cause severe eye and mild to moderate skin irritation.

Xylene has an acute oral LD50 (rat) of > 3523 mg/kg, acute dermal LD50 (rabbit) value of 4200 mg/kg, and an acute 4-hour LC50 (rat) of 29 mg/l (vapor). Inhalation of vapors may be irritating to the nose and throat. Inhalation of high concentrations may result in nausea, vomiting, headache, ringing in the ears, and severe breathing difficulties, which may be delayed in onset. High vapor concentrations are anesthetic and central nervous system depressants. Ingestion causes burning sensation in mouth and stomach, nausea vomiting and salivation. Minute amounts aspirated into the lungs can produce a severe hemorrhagic pneumonitis with severe pulmonary injury or death. Chronic inhalation can cause headache, loss of appetite, nervousness and pale skin. Skin contact results in moderate irritation and loss of natural oils. Repeated or prolonged skin contact may cause a skin rash. May be absorbed through the

skin. Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage. Repeated exposure of eyes to high concentrations of vapor may cause reversible eye damage. Chronic, repeated exposure may cause blood cell damage resulting in low blood cell count. May damage liver and kidneys. Xylene has been investigated for reproductive toxicity and may cause teratogenic effects.

Formaldehyde has oral (rat) and dermal (rabbit) LD50 values of 640 mg/kg and 270 mg/kg, respectively. 50% of the mice had reduced respiration rate following a 10 minutes inhalation exposure at a concentration of 4.9 ppm. Irritation of the nose and throat has been observed in people exposed to formaldehyde vapor levels in excess of 1 ppm. Normal breathing may be seriously impaired and serious lung damage can occur. Formaldehyde has been reported to cause pulmonary hypersensitivity in some individuals who were exposed to concentrations known to cause irritation; however, no pulmonary sensitization has been demonstrated in laboratory animal studies. Formaldehyde solutions can cause severe eye and skin irritation. Repeated skin exposure to solutions of 2% or more formaldehyde has caused allergic skin reactions. Formaldehyde was found to be weakly genotoxic in a number of in vitro genotoxicity tests and positive in certain in vivo genotoxicity studies. Formaldehyde did not cause birth defects in rats inhaling concentrations up to 10 ppm. However, a study using higher levels did show a slight but statistically significant reduction in male fetal body weight. Lifetime inhalation of formaldehyde vapor at concentrations above 5 ppm for 6 hours per day, caused nasal tumors in laboratory animals. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen based on epidemiological evidence linking formaldehyde exposure to the occurrence of nasopharyngeal cancer, a rare type of cancer. IARC also found limited evidence of cancer of the nasal cavity and paranasal sinuses and insufficient evidence for an association between formaldehyde and leukemia. Inhalation caused liver and kidney damage in laboratory animal tests.

Ethylbenzene has acute oral (rat) and dermal (rabbit) LD50 values of 3500 mg/kg and 15400 mg/kg respectively. The 4-hour inhalation LC50 in rats is 2180 ppm. It is a mild eye (rated 2 on a scale of 10) and a mild skin (rated 4 on a scale of 10) irritant. Prolonged exposure to the vapor of ethylbenzene may cause irritation of the eyes and upper respiratory tract, vertigo, motor ataxia, unconsciousness, and hematological disorders and hepatobiliary complaints. The International Agency for Research on Cancer has evaluated ethylbenzene and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Developmental toxicity studies in rats indicate skeletal malformation and reduced foetal weight.

Methanol has acute oral (rat) and dermal (rabbit) LD50 values of >5600 mg/kg and 15800 mg/kg, respectively. The 4-hour inhalation exposure LC50 (rat) for methanol vapor is 64,000 ppm (83.78 mg/L). Acute exposure to methanol vapor may cause headache and gastrointestinal irritation. Chronic or extreme inhalation exposure to vapors can cause blurred vision, serious eye damage, central nervous depression and death. Ingestion and inhalation of methanol has caused blindness in humans. Ingestion can also cause harmful effects on the central nervous system and gastrointestinal systems and can lead to death in extreme cases. Absorption of methanol can cause systemic toxicity. It has been reported that chronic skin absorption of methanol has caused ocular disturbances and blindness. Methanol has also been reported to be a teratogen and fetotoxin in laboratory animals and has demonstrated mutagenic activity, in vivo, in mammalian cells. Methanol may cause moderate eye and skin irritation. Literature also reports an oral (rat) LD50 value of 13.0 ml/kg (10g/kg).

 **WARNING:** Cancer and Reproductive Harm – www.P65Warnings.ca.gov

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12. ECOLOGICAL INFORMATION

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

Overall Environmental Toxicity: Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.

Due to extreme low solubility in water, and therefore the non-availability to species, this product is regarded as not hazardous to aquatic organisms. The product is also not readily biodegradable.

DEGRADATION

Test: Biodegradability
Duration: 28 day
< 70 %

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	LC50 1120 - 1520 mg/L - Oncorhynchus mykiss (96h) LC50 1370 - 1670 mg/L - Pimephales promelas (96h) LC50 1480 - 1730 mg/L - Lepomis macrochirus (96h)
Xylene (1330-20-7)	LC50 2.661 - 4.093 mg/L - Oncorhynchus mykiss (96h) LC50 30.26 - 40.75 mg/L - Poecilia reticulata (96h) LC50 = 13.4 mg/L - Pimephales promelas (96h) LC50 23.53 - 29.97 mg/L - Pimephales promelas (96h) LC50 7.711 - 9.591 mg/L - Lepomis macrochirus (96h) LC50 13.5 - 17.3 mg/L - Oncorhynchus mykiss (96h) LC50 = 780 mg/L - Cyprinus carpio (96h) LC50 > 780 mg/L - Cyprinus carpio (96h) LC50 = 19 mg/L - Lepomis macrochirus (96h) LC50 13.1 - 16.5 mg/L - Lepomis macrochirus (96h)
Formaldehyde (50-00-0)	LC50 = 6.7 mg/L - Morone saxatilis (96h)
Ethylbenzene (100-41-4)	LC50 11.0 - 18.0 mg/L - Oncorhynchus mykiss (96h) LC50 7.55 - 11 mg/L - Pimephales promelas (96h) LC50 = 9.6 mg/L - Poecilia reticulata (96h) LC50 9.1 - 15.6 mg/L - Pimephales promelas (96h) LC50 = 32 mg/L - Lepomis macrochirus (96h) LC50 = 4.2 mg/L - Oncorhynchus mykiss (96h)
Methanol (67-56-1)	LC50 = 28200 mg/L - Pimephales promelas (96h) LC50 18 - 20 mL/L - Oncorhynchus mykiss (96h) LC50 > 100 mg/L - Pimephales promelas (96h) LC50 13500 - 17600 mg/L - Lepomis macrochirus (96h) LC50 19500 - 20700 mg/L - Oncorhynchus mykiss (96h)

Component / CAS No.	Toxicity to Water Flea
Urea P/W formaldehyde, isobutylated	Not available

(68002-18-6)	
Isobutanol (78-83-1)	EC50 = 1300 mg/L - Daphnia magna (48h)
Xylene (1330-20-7)	EC50 = 3.82 mg/L - water flea (48h) LC50 = 0.6 mg/L - Gammarus lacustris (48h)
Formaldehyde (50-00-0)	EC50 = 5.8 mg/L - Daphnia pulex (48h)
Ethylbenzene (100-41-4)	EC50 1.8 - 2.4 mg/L - Daphnia magna (48h)
Methanol (67-56-1)	Not available

Component / CAS No.	Toxicity to Algae
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	EC50 = 230 mg/L - Desmodesmus subspicatus (48h)
Xylene (1330-20-7)	Not available
Formaldehyde (50-00-0)	EC50 = 4.89 mg/L - Desmodesmus subspicatus (72hrs)
Ethylbenzene (100-41-4)	EC50 > 438 mg/L - Pseudokirchneriella subcapitata (96h) EC50 = 4.6 mg/L - Pseudokirchneriella subcapitata (72h) EC50 1.7 - 7.6 mg/L - Pseudokirchneriella subcapitata (96h) EC50 2.6 - 11.3 mg/L - Pseudokirchneriella subcapitata (72h)
Methanol (67-56-1)	Not available

Component / CAS No.	Partition coefficient
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	0.79
Xylene (1330-20-7)	2.77 - 3.15
Formaldehyde (50-00-0)	0.35
Ethylbenzene (100-41-4)	3.2
Methanol (67-56-1)	-0.77

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 SDS 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 SDS (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: RESIN SOLUTION
Hazard Class: 3
Packing Group: III
UN/ID Number: UN1866
Transport Label Required: Flammable Liquid

Component / CAS No.	Hazardous Substances/Reportable Quantity of Product (lbs)
Isobutanol	20833
Xylene	2500
Formaldehyde	5000

Comments: Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the product reportable quantity.

TRANSPORT CANADA

Dangerous Goods? X
PROPER SHIPPING NAME: RESIN SOLUTION
Hazard Class: 3
Packing Group: III
UN Number: UN1866
Transport Label Required: Flammable Liquid

ICAO / IATA

Dangerous Goods? X
UN PROPER SHIPPING NAME: RESIN SOLUTION
Transport Hazard Class: 3
Packing Group: III
UN Number: UN1866
Transport Label Required: Flammable Liquid

IMO

Dangerous Goods? X
UN PROPER SHIPPING NAME: RESIN SOLUTION
Transport Hazard Class: 3
UN Number: UN1866
Packing Group: III
Transport Label Required: Flammable Liquid

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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): When purchased from an Allnex legal entity based in the EEA (EU or Norway), this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt and/or registered.

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.

New Zealand: This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.

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 and ISHL) inventories or are not required to be listed on the Japanese inventories.

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 in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

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.

Component / CAS No.	%	TPQ (lbs)	RQ(lbs)	S313	TSCA 12B
Isobutanol 78-83-1	22 - 24	None	5000	No	No
Formaldehyde 50-00-0	1.8 - 2	500	100	Yes	No
Xylene 1330-20-7	2 - 4	None	100	Yes	No
Ethylbenzene 100-41-4	~ 0.6	None	1000	Yes	No

PRODUCT HAZARD CATEGORY UNDER SECTIONS 311 AND 312 OF EPCRA

Physical Hazards
Flammable (gases, aerosols, liquids, or solids)

Health Hazards
Carcinogenicity
Skin Corrosion or Irritation
Respiratory or Skin Sensitization
Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)
Germ cell mutagenicity

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16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)

Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

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

Reasons For Issue: Revised Section 11

Date Prepared: 08/25/2018
Date of last significant revision: 11/27/2015

Component - Hazard Statements

Urea P/W formaldehyde, isobutylated
- H413 - May cause long lasting harmful effects to aquatic life.

Isobutanol
- H226 - Flammable liquid and vapor.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H335 - May cause respiratory irritation.
- H336 - May cause drowsiness or dizziness.

Xylene
- H226 - Flammable liquid and vapor.
- H304 - May be fatal if swallowed and enters airways.
- H312 - Harmful in contact with skin.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H332 - Harmful if inhaled.
- H335 - May cause respiratory irritation.
- H373 - May cause damage to organs through prolonged or repeated exposure.

Formaldehyde
- H301 - Toxic if swallowed.
- H311 - Toxic in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H331 - Toxic if inhaled.
- H341 - Suspected of causing genetic defects.
- H350 - May cause cancer.
- H401 - Toxic to aquatic life.

Ethylbenzene
- H225 - Highly flammable liquid and vapor.
- H304 - May be fatal if swallowed and enters airways.
- H332 - Harmful if inhaled.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H401 - Toxic to aquatic life.
- H412 - Harmful to aquatic life with long lasting effects.

Methanol
- H225 - Highly flammable liquid and vapor.
- H301 - Toxic if swallowed.
- H311 - Toxic in contact with skin.
- H316 - Causes mild skin irritation.
- H320 - Causes eye irritation.

H331 - Toxic if inhaled.
H370 - Causes damage to organs.

Emergency phone numbers for other regions

Asia Pacific
Australia: +61 1800 022 037 (Allnex Australia)
China (PRC): +86(0)25 8547 7110 (Jiangsu registration center) / +86(0)532 8388 9090 (NRCC)
India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)
Indonesia: 007 803 011 0293 (Carechem 24)
Japan: +81 345 789 341 (Carechem 24)
Korea: +82 2 3479 8401 (Carechem 24)
Malaysia: +60 3 6207 4347 (Carechem 24)
New Zealand: +64 0800 803 002 (Allnex New Zealand)
Philippines: +63 2 231 2149 (Carechem 24)
Taiwan: +886 2 8793 3212 (Carechem 24)
Vietnam: +84 8 4458 2388 (Carechem 24)
All Others: +65 3158 1074 (Carechem 24)
Europe
+44 (0) 1235 239 670 (Carechem 24)
Middle East, Africa
+44 (0) 1235 239 671 (Carechem 24)
Latin America
Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)
Chile: +56 2 2582 9336 (Carechem 24)
Mexico and all others: +52-555-004-8763 (Carechem 24)