SAFETY DATA SHEET

Safety Data Sheet according to regulation (EC) No 1907/2006 & 1272/2008 and amendments

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier: **CYMEL® 659 Resin**
Product Description: Butylated benzoguanamine-formaldehyde resin in butanol

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended/Recommended Use: Raw material for surface coatings

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Allnex Belgium SA/NV, Square Marie Curie 11, 1070 Brussels, BE.
For Product and all Non-Emergency Information call your local Allnex contact point or contact us at http://www.allnex.com/contact

Local Contact Information: Allnex Belgium SA/NV, Anderlechtstraat, 33, 1620 Drogenbos, BE
Telephone no.: +32 (0) 2-3345111

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

Asia Pacific:
Australia: +61 2801 44558 (Carechem 24)
China (PRC): +86(0)532-8388-9090 (NRCC)
Japan: +81 345 789 341 (Carechem 24)
New Zealand: +64 9929 1483 (Carechem 24)
India: +91 1166 411 405 or +65 3158 1198 (Carechem 24)
All Others: +65 3158 1074 (Carechem 24)

Europe/Africa/Middle East (Carechem 24):
Europe, Middle East, Africa, Israel: +44 (0) 1235 239 670
Middle East, Africa (Arabic speaking countries): +44 (0) 1235 239 671

Latin America:
Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)
Mexico and all others: +52-555-004-8763 (Carechem 24)

Canada and USA (Carechem 24 - Allnex29003-NCEC): +1-866-928-0789 (toll free) or +1-215-207-0061

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2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008 and amendments

Flammable Liquid Hazard Category 3
Carcinogenicity Hazard Category 1B
Acute Toxicity (Oral) Hazard Category 4
Specific Target Organ Toxicity (STOT) - 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 Long-term Hazard Category 4

LABEL ELEMENTS

Signal Word
Danger

Hazard Statements
H226 - Flammable liquid and vapour.
H350 - May cause cancer.
H302 - Harmful if swallowed.
H336 - May cause drowsiness or dizziness.
H335 - May cause respiratory irritation.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H317 - May cause an allergic skin reaction.
H413 - May cause long lasting harmful effects to aquatic life.

Precautionary Statements
Precautionary statements on the label will be reduced as indicated in Regulation (EC) No 1272/2008, Article 28.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P201 - Obtain special instructions before use.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378 - In case of fire: Use CO2, dry chemical, or foam for extinction.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P403 + P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local and national regulations.

OTHER HAZARDS
Not applicable

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Mixture

Component / CAS No.	%	EC-No	REACH Registration Number	REACH SVHC	Classification according to Regulation (EC) No 1272/2008 (CLP)	M-Factor
Benzoguanamine formaldehyde resin, butylated 68002-26-6	70 - 74	--	Not available	-	Aquatic Chronic 4 (H413)	-
Butanol 71-36-3	19 - 21	200-751-6	01-2119484630-38	-	Flam. Liq. 3 (H226) Acute Tox. 4 (H302) STOT SE 3 (H335) STOT SE 3 (H336) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-
Xylene 1330-20-7	2 - 4	215-535-7	01-2119488216-32	-	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. 2 (H319) Asp. Tox. 1 (H304)	-

Formaldehyde 50-00-0	< 1.0	200-001-8	01-2119488953-20	-	Carc. 1B (H350) B,D Muta. 2 (H341) B,D Acute Tox. 3 (H301) B,D Acute Tox. 3 (H311) B,D Acute Tox. 3 (H331) B,D Skin Corr. 1B (H314) B,D Eye Dam.1 (H318) B,D Skin Sens. 1A (H317) B,D	-
Methanol 67-56-1	0 - 0.3	200-659-6	01-2119433307-44	-	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)	-

XYLENE: Several REACH registrations cover the multi-constituent substance with xylene isomers, ethylbenzene (and toluene). The other REACH descriptions are:
Aromatic hydrocarbons, C8 (EC-No. 292-694-9; REACH Registration number 01-2119486136-34; CAS No. 90989-38-1)
Reaction mass of ethylbenzene and m-xylene and p-xylene (EC-No. 905-562-9; Registration number 01-2119555267-33)

See Section 16 for full text of H phrases.

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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:
Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

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. Obtain medical advice if there are persistent symptoms.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

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5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

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

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

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

ADVICE FOR FIREFIGHTERS

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

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
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.

Environmental Precautions:
Use appropriate containment to avoid environmental contamination. Avoid release to the environment.

Methods and material for containment and 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.

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

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7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE 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. Do not eat, drink or smoke when using this product. 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.

Conditions for safe storage, including any incompatibilities:
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.

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

Storage Class (TRGS 510): 3

Specific end use(s):
Refer to Section 1 or Exposure Scenario if applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

71-36-3 Butanol

United Kingdom: WEL (Workplace Exposure Limits)	(skin) 50 ppm (STEL) 154 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	Not established
Other Value:	Not established

1330-20-7 Xylene

United Kingdom: WEL (Workplace Exposure Limits)	50 ppm (TWA) 220 mg/m³ (TWA) (skin) 100 ppm (STEL) 441 mg/m³ (STEL) 650 mmol/mol creatinine (urine) Methyl hippuric acid (Health Guidance Value) (EH40)
Europe ILV (Indicative Limit Values):	Not established
Other Value:	Not established

50-00-0 Formaldehyde

United Kingdom: WEL (Workplace Exposure Limits)	2 ppm (TWA) 2.5 mg/m³ (TWA) 2 ppm (STEL) 2.5 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	Not established
Other Value:	Not established

67-56-1 Methanol

United Kingdom: WEL (Workplace Exposure Limits)	200 ppm (TWA) 266 mg/m³ (TWA) (skin) 250 ppm (STEL) 333 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	200 ppm (TWA) 260 mg/m³ (TWA) (skin)
Other Value:	Not established

Derived No Effect Level (DNEL):

Butanol (71-36-3)

Use	Route	DNEL	Units	Effects Type
Worker	Inhalation	310	mg/m³	Long term, local
Consumer	Oral	3.125	mg/kg/day	Long term, systemic
Consumer	Inhalation	55	mg/m³	Long term, local

Xylene (1330-20-7)

Use	Route	DNEL	Units	Effects Type
Worker	Inhalation	289	mg/m³	Short term, systemic
Worker	Inhalation	289	mg/m³	Short term, local
Worker	Dermal	180	mg/kg	Long term, systemic
Worker	Inhalation	77	mg/m³	Long term, systemic
Consumer	Inhalation	174	mg/m³	Short term, systemic
Consumer	Inhalation	174	mg/m³	Short term, local
Consumer	Dermal	108	mg/kg	Long term, systemic
Consumer	Inhalation	14.8	mg/m³	Long term, systemic
Consumer	Oral	1.6	mg/kg/day	Long term, systemic

Formaldehyde (50-00-0)

Use	Route	DNEL	Units	Effects Type
Worker	Inhalation	0.8	mg/kg	Short term, local
Worker	Dermal	240	mg/kg/day	Long term, systemic
Worker	Inhalation	9	mg/m³	Long term, systemic
Worker	Dermal	0.037	mg/cm2	Long term, local
Worker	Inhalation	0.4	mg/kg	Long term, local
Consumer	Dermal	102	mg/kg/day	Long term, systemic
Consumer	Inhalation	3.2	mg/cm2	Long term, systemic
Consumer	Oral	4.1	mg/kg/day	Long term, systemic
Consumer	Dermal	0.012	mg/cm2	Long term, local
Consumer	Inhalation	0.1	mg/m³	Long term, local

Methanol (67-56-1)

Use	Route	DNEL	Units	Effects Type
Worker	Inhalation	260	mg/m³	Short term, systemic
Worker	Inhalation	260	mg/m³	Long term, systemic
Worker	Inhalation	260	mg/kg/day	Short term, local
Worker	Inhalation	260	mg/m³	Long term, local
Worker	Dermal	40	mg/kg/day	Short term, systemic
Worker	Dermal	40	mg/kg/day	Long term, systemic
Consumer	Inhalation	50	mg/m³	Short term, systemic
Consumer	Inhalation	50	mg/m³	Long term, systemic
Consumer	Dermal	8	mg/kg/day	Short term, systemic
Consumer	Dermal	8	mg/kg/day	Long term, systemic
Consumer	Oral	8	mg/kg/day	Short term, systemic
Consumer	Oral	8	mg/kg/day	Long term, systemic
Consumer	Inhalation	50	mg/m³	Long term, local
Consumer	Inhalation	50	mg/m³	Short term, local

Predicted No Effect Concentration (PNEC):

Butanol (71-36-3)

Compartment	PNEC	Units
Fresh water	0.082	mg/L
Marine water	0.0082	mg/L
Intermittent water release	2.25	mg/L
Sewage treatment plant	2476	mg/L
Sediment (fresh water)	0.178	mg/kg
Sediment (marine water)	0.0178	mg/kg
Soil	0.015	mg/kg

Xylene (1330-20-7)

Compartment	PNEC	Units
Fresh water	0.327	mg/L
Marine water	0.327	mg/L
Intermittent water release	0.327	mg/L
Sewage treatment plant	6.58	mg/L
Sediment (fresh water)	12.46	mg/kg
Sediment (marine water)	12.46	mg/kg
Soil	2.31	mg/kg

Formaldehyde (50-00-0)

Compartment	PNEC	Units
Fresh water	0.47	mg/L
Marine water	0.47	mg/L
Sediment (fresh water)	2.44	mg/kg
Sediment (marine water)	2.44	mg/kg
Soil	0.21	mg/kg
Sewage treatment plant	0.19	mg/L

Intermittent water release	4.7	mg/L

Methanol (67-56-1)

Compartment	**PNEC**	**Units**
Fresh water	154	mg/L
Marine water	15.4	mg/L
Intermittent water release	1540	mg/L
Sewage treatment plant	100	mg/L
Sediment (marine water)	570.4	mg/kg
Soil	23.5	mg/L

EXPOSURE CONTROLS

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.

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:
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.

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 60 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:
Nitrile rubber (NBR), thickness: 0.12 mm
Natural rubber (NRL), thickness: 0.12 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.

Formulation & (re)packing of substances and mixtures Control of worker exposure	
Process Category	PROC1 - Use in closed process, no likelihood of exposure
Risk Management Measures and Operational Conditions	Handle substance within a closed system. Avoid direct contact with the substance. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Process Category	PROC2 - Use in closed, continuous process with occasional controlled exposure (e.g. sampling) PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Risk Management Measures and Operational Conditions	Handle substance within a closed system. Avoid direct contact with the substance. With local exhaust ventilation Effectiveness: 90%. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Process Category	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing
Risk Management Measures and Operational Conditions	With local exhaust ventilation Effectiveness: 90%. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Process Category	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Risk Management Measures and Operational Conditions	Handle substance within a closed system. Avoid carrying out operation for more than 1 hour. With local exhaust ventilation Effectiveness: 97%. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

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9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Colour:	colourless
Appearance:	liquid
Odor:	formaldehyde and butanol
Odor Threshold:	See Section 8 for exposure limits.
pH:	Not applicable
Melting Point:	Not applicable
Boiling Point:	Not applicable
Flash point:	35 °C Setaflash Closed Cup
Evaporation Rate:	< 1
Flammable Limits (% By Vol):	Not available
Vapor Pressure:	Not available
Vapour density:	> 1
Specific Gravity/Density:	1.06 g/cm³ @ 20 °C
Solubility In Water:	Insoluble
Partition coefficient (n-octanol/water):	Not available
Autoignition temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	Not available

OTHER INFORMATION

Fat Solubility (Solvent-Oil):	Not available
Percent Volatile (% by wt.):	~ 28
Solids Content:	Not available
Saturation In Air (% By Vol.):	Not available
Acid Number (mg KOH/g):	Not available
Hydroxyl Value (mg KOH/g):	Not available
Volatile Organic Content (1999/13/EC):	~ 27 %

10. STABILITY AND REACTIVITY

Reactivity: No information available

CHEMICAL STABILITY

Stability: Stable

Conditions To Avoid: None known

POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization: Will not occur

Conditions To Avoid: None known

Incompatible materials: No specific incompatibility

Hazardous Decomposition Products:
Ammonia (NH3)
Carbon monoxide (CO)
Formaldehyde
hydrogen cyanide (HCN)
oxides of nitrogen
butanol

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

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

Acute toxicity - oral: Harmful if swallowed.
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: Not Classified. **-** Based on available data and/or professional judgment, the classification criteria are not met.
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: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
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	1720 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)

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

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data

OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Butanol has acute oral (rat) and dermal (rabbit) LD50 values of 0.790 g/kg and 3.4 g/kg, respectively. The inhalation LC50 (rat) value after a 4-hour exposure is 8000 ppm (24.24 mg/L). Acute overexposure to vapors of butanol may cause headache, dizziness, drowsiness, blurred vision and a burning sensation in the eyes. Overexposure to butanol vapors can produce headache and central nervous system depression. Acute ingestion of butanol has caused unconsciousness and coma. Direct contact with butanol may cause severe eye irritation and moderate skin irritation. Butanol has caused effects on the developing embryo/fetus in the presences of material toxicity.

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. Glycerine has an acute oral LD50 (rat) of 12,600 mg/kg. Eye or skin contact will produce mild irritation. Inhalation of mist could cause respiratory irritation.

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).

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12. ECOLOGICAL INFORMATION

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

Aquatic Chronic Toxicity: 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.
This material is not readily biodegradable.
By analogy with a product of similar composition.

DEGRADATION

Test: CO2 Evolution: Modified Sturm (OECD 301B)
Duration: 28 day
7 %

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
Benzoguanamine formaldehyde resin, butylated 68002-26-6	Not available	Not available	Not available
Butanol 71-36-3	EC50 > 500 mg/L - Desmodesmus subspicatus (72h)	LC50 100000 - 500000 µg/L - Lepomis macrochirus (96h) LC50 = 1740 mg/L - Pimephales promelas (96h)	EC50 = 1983 mg/L - Daphnia magna (48h)
Xylene 1330-20-7	EC50 = 11 mg/L - Pseudokirchneriella subcapitata (72h)	LC50 13.5 - 17.3 mg/L - Oncorhynchus mykiss (96h) LC50 = 19 mg/L - Lepomis macrochirus (96h) LC50 = 13.4 mg/L - Pimephales promelas (96h) LC50 2.661 - 4.093 mg/L - Oncorhynchus mykiss (96h) LC50 13.1 - 16.5 mg/L - Lepomis macrochirus (96h) LC50 23.53 - 29.97 mg/L - Pimephales promelas (96h) LC50 30.26 - 40.75 mg/L - Poecilia reticulata (96h) LC50 = 780 mg/L - Cyprinus carpio (96h) LC50 > 780 mg/L - Cyprinus carpio (96h) LC50 7.711 - 9.591 mg/L - Lepomis macrochirus (96h)	EC50 = 3.82 mg/L - water flea (48h) LC50 = 0.6 mg/L - Gammarus lacustris (48h)
Formaldehyde 50-00-0	EC50 = 4.89 mg/L - Desmodesmus subspicatus (72hrs)	LC50 = 6.7 mg/L - Morone saxatilis (96h)	EC50 = 5.8 mg/L - Daphnia pulex (48h)

Methanol 67-56-1	Not available	LC50 19500 - 20700 mg/L - Oncorhynchus mykiss (96h) LC50 = 28200 mg/L - Pimephales promelas (96h) LC50 13500 - 17600 mg/L - Lepomis macrochirus (96h) LC50 18 - 20 mL/L - Oncorhynchus mykiss (96h) LC50 > 100 mg/L - Pimephales promelas (96h)	Not available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods
The company encourages the recycle and reuse of products and packaging, where possible and permitted.

Product disposal
When recycle or reuse is not possible, the comany recommends that our products, especially when classified as hazardous, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed. For disposal within the European Community, waste codes according to Directive 2008/98/EC should be assigned by the user based on the application for which the product was used.

Packaging disposal
Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

Disposal-relevant information
Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

14. TRANSPORT INFORMATION

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

ADR/RID/ADN
Dangerous Goods? X
UN PROPER SHIPPING NAME: RESIN SOLUTION, flammable
Transport Hazard Class: 3
UN Number: UN1866
Packing Group: III
Transport Label Required: Flammable liquid
Tunnel restriction code: D/E
Comments: Not intended for shipment by inland waterways in tank vessels.

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

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

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15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Ozone Depleting Substances (Regulation (EC) No 1005/2009): Not applicable
Persistent Organic Pollutants (Regulation (EC) No 850/2004): Not applicable
Prior Informed Consent (Regulation (EC) No 689/2008): Not applicable
Substances subject to Authorization (Annex XIV of Regulation (EC) No 1907/2006): Not applicable

Substances subject to Restrictions for certain applications(Annex XVII of Regulation(EC)No 1907/2006):
Yes
Refer to Annex XVII of REACH for details of the restricted applications.

Butanol (19 - 21 %)
This substance is a flammable restricted for aerosols under item 40.
Xylene (2 - 4 %)
This substance is a flammable restricted for aerosols under item 40.
Benzene (~ 0.0008 %)
This is a carcinogen substance restricted under item 28. This is a mutagen substance restricted under item 29. This substance is restricted under item 5. This substance is a flammable restricted for aerosols under item 40.

Water Endangering Class (Germany): 2 according to VwVwS, 17.05.1999

Inventory Information

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, pre-registered and/or registered.

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.

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 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 either listed on the Philippine (PICCS) inventory, have been assessed by Environmental Management Bureau (EMB) or are exempt from notification requirements.

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).

CHEMICAL SAFETY ASSESSMENT
No Chemical Safety Assessment has been carried out.

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16. OTHER INFORMATION

Reasons for Issue: Revised Section 12

Date Prepared: 01-Jun-2016
Date of last significant revision: 01-Jun-2016

Classification methods include one or more of the following: use of specific product data, read-across data, modeling, professional judgment or a component based evaluation.

Component - Hazard Statements
Benzoguanamine formaldehyde resin, butylated
H413 - May cause long lasting harmful effects to aquatic life.
Butanol
H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
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 vapour.
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.
Methanol
H225 - Highly flammable liquid and vapour.
H301 - Toxic if swallowed.
H311 - Toxic in contact with skin.
H331 - Toxic if inhaled.
H370 - Causes damage to organs.

Uses covered for this mixture under REACH Consolidated from the exposure scenarios of the substances present in this mixture						
No.	**Short Title**	**Sector of Use (SU)**	**Product Category (PC)**	**Process Category (PROC)**	**Environmental Release Category (ERC)**	**Risk Management Measures/ Operational Conditions (RMM/OC)**

1	Formulation & (re)packing of substances and mixtures	SU3		PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC9 PROC10	ERC2	Included in Section 8 of this SDS
2	Industrial application of coatings and inks	SU3		PROC1 PROC2 PROC3 PROC4 PROC5 PROC7 PROC8a PROC8b PROC9 PROC10 PROC24	ERC4 ERC5	Available on request*
3	Professional application of coatings and inks	SU22		PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC10 PROC11 PROC19	ERC8a ERC8c ERC8d ERC8f	Available on request*

* Contact ALLNEX (PSRA-customer-requests@allnex.com) for detailed Exposure Scenario information on the substances present in this mixture.