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SAFETY DATA SHEET

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

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER

CYMEL® UI-38-I RESIN

Product Description: Isobutylated urea-formaldehyde resin in isobutanol

Unique Formula Identifier (UFI) 3YE4-N0S3-G00S-UVDF

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

Intended/Recommended Use: Raw material for surface coatings
Uses advised against: -

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Tennants Distribution Limited. Hazelbottom Road, Cheetham, Manchester. M8 0GR
For Product and all Non-Emergency Information call: +44(0)161 205 4454

1.4 EMERGENCY TELEPHONE NUMBER

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call: +44(0)844 335 0001.

SECTION 2: HAZARDS IDENTIFICATION

2.1 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 (Inhalation) 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

2.2 LABEL ELEMENTS

Signal Word
Danger

Hazard Statements
H226 - Flammable liquid and vapour.
H350 - May cause cancer.
H332 - Harmful if inhaled.
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.

Restricted to professional users.

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.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
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 [or shower].
P370 + P378 - In case of fire: Use CO2, dry chemical, or foam to extinguish.
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, regional, national, and international regulations as applicable.

2.3 OTHER HAZARDS

This product can release volatile component during curing:

Component / CAS No.
Formaldehyde (50-00-0)
Butanol (71-36-3)

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

ENDOCRINE DISRUPTOR INFORMATION

Endocrine disrupting - health:
Not applicable

Endocrine disrupting - environment:
Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Mixture

3.2 MIXTURES

Component / CAS No.	%	EC-No	REACH Registration Number	Classification according to Regulation (EC) No. 1272/2008 [CLP]	EU - CLP EUH Codes
Urea P/W formaldehyde, isobutylated 68002-18-6	67 - 71		Not available	Aquatic Chronic 4 (H413)	
Isobutanol 78-83-1	24 - 26	201-148-0	01-2119484609-23	Flam. Liq. 3 (H226) STOT SE 3 (H335) STOT SE 3 (H336) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	
Formaldehyde 50-00-0	< 1.0	200-001-8	01-2119488953-20	Carc. 1B (H350) Muta. 2 (H341) Acute Tox. 4 (H302) Acute Tox. 2 (H330) Skin Corr. 1B (H314) Eye Dam.1 (H318) Skin Sens. 1A (H317)	EUH071
Formic acid 64-18-6	0 - 0.18	200-579-1	01-2119491174-37	Flam. Liq. 3 (H226) Met. Corr. 1 (H290) Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Eye Dam. 1 (H318)	EUH071

Component / CAS No.	REACH SVHC	M-Factor	CLP Specific Concentration Limits	CLP Acute Toxicity Estimates (ATEs)
Formaldehyde 50-00-0			STOT SE 3 H335 C>=5% Skin Corr. 1B H314 C>=25%	Inhalation ATE 100 ppmV B,D,F, gas Oral ATE 500 mg/kg B,D,F, body weight

			Skin Irrit. 2 H315 5%<=C<25% Eye Irrit. 2 H319 5%<=C<25%	
Formic acid 64-18-6			Flam. Liq. 3 H226 C>85% Skin Corr. 1A H314 C>=90% Skin Corr. 1B H314 10%<=C<90% Skin Irrit. 2 H315 2%<=C<10% Eye Dam. 1 H318 C>=10% Eye Irrit. 2 H319 2%<=C<10%	oral (gavage) (rat) ATE = 730 mg/kg Inhalation (rat) (4hr) ATE = 7.85 mg/l (vapor)

See Section 16 for full text of H phrases.

SECTION 4: FIRST AID MEASURES

4.1 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.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Not applicable.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

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

Unsuitable Extinguishing Media:
full water jet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

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

5.3 ADVICE FOR FIREFIGHTERS

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 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.

6.2 ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment.

6.3 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.

6.4 REFERENCE TO OTHER SECTIONS

See Sections 7, 8 and 13 for additional information.

SECTION 7: HANDLING AND STORAGE

7.1 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 non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye/face protection. Use only outdoors or in a well-ventilated area. 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. 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.

7.2 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

7.3 SPECIFIC END USE(S)

Refer to Section 1 or Exposure Scenario if applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

78-83-1 Isobutanol

United Kingdom: WEL (Workplace Exposure Limits)	50 ppm (TWA) 154 mg/m³ (TWA) 75 ppm (STEL) 231 mg/m³ (STEL)
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

64-18-6 Formic acid

United Kingdom: WEL (Workplace Exposure Limits)	5 ppm (TWA) 9.6 mg/m³ (TWA) 15 ppm (STEL) 28.8 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	5 ppm (TWA) 9 mg/m³ (TWA)
Other Value:	Not established

Biological Exposure Limit(s)

No values have been established.

Derived No Effect Level (DNEL):

Isobutanol (78-83-1)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	310	mg/m³	Long term, local
Consumer	inhalation	55	mg/m³	Long term, local

Formaldehyde (50-00-0)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	9	mg/m²	Long term, systemic
Worker	inhalation	0.375	mg/m³	Long term, local
Worker	inhalation	0.75	mg/m³	Short term, local
Worker	Dermal	240	mg/kg/day	Long term, systemic
Worker	Dermal	37	µg/cm²	Long term, local
General Population	inhalation	3.2	mg/m³	Long term, systemic
General Population	inhalation	0.1	mg/m³	Long term, local
General Population	Dermal	102	mg/kg/day	Long term, systemic
General Population	Dermal	12	µg/cm²	Long term, local
General Population	Oral	4.1	mg/kg/day	Long term, systemic

Formic acid (64-18-6)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	9.5	mg/m³	Long term, systemic
Worker	inhalation	9.5	mg/m³	Long term, local
General Population	inhalation	6	mg/m³	Long term, systemic
General Population	inhalation	6	mg/m³	Long term, local

General Population	Dermal	3	mg/kg/day	Long term, systemic
General Population	Oral	3	mg/kg/day	Long term, systemic

Predicted No Effect Concentration (PNEC):
Isobutanol (78-83-1)

Compartment	PNEC	Units
Fresh water	0.4	mg/l
Marine water	0.04	mg/l
Intermittent water release	11	mg/l
Sediment (fresh water)	1.56	mg/kg
Sediment (marine water)	0.156	mg/kg
Soil	0.076	mg/kg
Sewage treatment plant	10	mg/l

8.2 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 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:
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.

The selected protective gloves have to satisfy the specifications of EU Regulation (EC) 2016/425 and standard EN ISO 374-1:2016.

Gloves for repeated or prolonged exposure - non exhaustive list:
Nitrile rubber (NBR), thickness: > 0.38 mm, break through time: > 480 min

Gloves for short term exposure/splash protection - non exhaustive list:
Natural rubber (NRL), thickness: 0.75 mm, break through time: up to 120 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: 0.12 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.

Environmental Protection:
See section 6.2.

Safe use information for the formulation & (re)packing of the mixture.
Consolidated from the exposure scenarios of the substances present in the mixture:

Process Category	PROC1 - Use in closed process, no likelihood of exposure
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for > 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Effectiveness: 95%. Use eye protection according to EN 166, designed to protect against liquid splashes.

Process Category	PROC2 - Use in closed, continuous process with occasional controlled exposure (e.g. sampling)
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for > 4 hours. Provide enhanced general ventilation by mechanical means. Local exhaust ventilation - efficiency of at least Effectiveness: 90%. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Effectiveness: 95%. Use eye protection according to EN 166, designed to protect against liquid splashes.

Process Category	PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises 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)
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for > 4 hours. With local exhaust ventilation Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Effectiveness: 95%. Use eye protection according to EN 166, designed to protect against liquid splashes. Wear a respirator providing a minimum efficiency of Effectiveness: 90%.

Process Category	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for > 4 hours. Provide enhanced general ventilation by mechanical means. Local exhaust ventilation - efficiency of at least Effectiveness: 90%. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Effectiveness: 95%. Use eye protection according to EN 166, designed to protect against liquid splashes.

Process Category	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for > 4 hours. Provide enhanced general

	ventilation by mechanical means. Provide extract ventilation to points where emissions occur. Effectiveness: 97%. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Effectiveness: 95%. Use eye protection according to EN 166, designed to protect against liquid splashes.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Colour:	clear
Odor:	formaldehyde and isobutanol
Odor Threshold:	See Section 8 for exposure limits.
Melting Point:	Not applicable
Boiling Point:	Not applicable
Flammability:	Not available
Flammable Limits (% By Vol):	Not available
Flash point:	38 °C Setaflash Closed Cup
Autoignition temperature:	Not available
Decomposition Temperature:	Not available
pH:	Not applicable
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	Not available
Solubility In Water:	Insoluble
Solubility In Solvent:	Not available
Partition coefficient n-octanol/water (log value):	Not available
Vapor Pressure:	Not available
Specific Gravity/Density:	1.03 g/cm^3 @ 25 °C
Relative Vapour density:	> 1
Particle characteristics:	Not applicable

9.2 OTHER INFORMATION

9.2.1 Information with regard to physical hazard classes
Not applicable

9.2.2 Other safety characteristics
Not applicable

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY No information available

10.2 CHEMICAL STABILITY Stable

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization:	Will not occur
Conditions To Avoid:	None known.

10.4 CONDITIONS TO AVOID None known.

10.5 INCOMPATIBLE No specific incompatibility

MATERIALS

10.6 HAZARDOUS DECOMPOSITION PRODUCTS	Carbon dioxide Carbon monoxide (CO) Formaldehyde oxides of nitrogen

This product can release volatile component during curing:

Component / CAS No.
Formaldehyde (50-00-0)
Butanol (71-36-3)

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON HAZARD CLASSES AS DEFINED IN Regulation (EC) No 1272/2008

Likely Routes of Exposure: Oral, Eyes, Skin, 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: Harmful if inhaled

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	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)
> 10000 ppmV (Gases)			

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

SUBACUTE/SUBCHRONIC TOXICITY

oral (gavage)	rat	No data
dermal	rat	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

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.

Formaldehyde has oral (rat) LD50 values of 500 mg/kg. The inhalation LC50 value was set at 100 ppm (gases). 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.

Formic acid has an acute oral LD50 (rat) of 730 mg/kg. The acute inhalation LC50 (4hrs, rat) for vapours was 7.85 mg/L. Because of the low pH, formic Acid is expected to cause severe irritation of the skin, eyes and mucous membranes. Formic acid has not induced skin sensitization as such, but it is structurally close to formaldehyde which is a potent sensitizer. Repeated dosing by the oral route induced local effects in the stomach. No carcinogenic effects were found in studies conducted with formic salts. There were no indications that sodium formate adversely affected fertility or reproductive performance. No test substance induced signs of developmental toxicity were noted either.

11.2 INFORMATION ON OTHER HAZARDS

Endocrine disrupting properties:
for more information see sections 2-Other hazards and 11-Hazardous ingredient toxicity data in this Safety Data Sheet.

SECTION 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. The product is also not readily biodegradable.

12.1 TOXICITY
Not available

12.2 PERSISTENCE AND DEGRADABILITY

DEGRADATION

Test: Biodegradability
Duration: 28 day
< 70 %

12.3 BIOACCUMULATIVE POTENTIAL
Not available

12.4 MOBILITY IN SOIL
Not available

12.5 RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

12.6 ENDOCRINE DISRUPTING PROPERTIES

No Hazardous Ingredients

12.7 OTHER ADVERSE EFFECTS
Not available

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)
Formaldehyde (50-00-0)	LC50 = 24.1 mg/L - Pimephales promelas (96h) LC50 = 6.7 mg/L - Morone saxatilis (96h)
Formic acid (64-18-6)	LC50 = 3500 mg/L - Oncorhynchus mykiss (96h)(read across) LC50 = 130 mg/L - Danio rerio (96h) (read across)

Component / CAS No.	Toxicity to Water Flea
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	EC50 = 1300 mg/L - Daphnia magna (48h)
Formaldehyde (50-00-0)	EC50 = 5.8 mg/L - Daphnia pulex (48h) NOEC = 1.04 mg/L - Daphnia magna - (21d)
Formic acid (64-18-6)	EC50= 540 mg/L - Daphnia magna (48h) (read across) EC50 = 365 mg/L - Daphnia magna (48h) read across)

Component / CAS No.	Toxicity to Algae
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	Not available
Formaldehyde (50-00-0)	EC50 = 4.89 mg/L - Desmodesmus subspicatus (72hrs)
Formic acid (64-18-6)	EC50 = 1240 mg/L - Desmodesmus subspicatus (72h) (read across)

Component / CAS No.	Partition coefficient
Urea P/W formaldehyde, isobutylated (68002-18-6)	Not available
Isobutanol (78-83-1)	1
Formaldehyde (50-00-0)	0.35
Formic acid (64-18-6)	-1.9

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 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 company 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.

SECTION 14: TRANSPORT INFORMATION

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

SUBSECTION 14.1 TO 14.5

ADR/RID/ADN

Dangerous Goods?	X
UN Number:	UN1866
UN PROPER SHIPPING NAME:	RESIN SOLUTION, flammable
Transport Hazard Class:	3
Transport Label Required:	Flammable liquid

Packing Group:	III
Tunnel restriction code:	D/E
Comments:	Not intended for shipment by inland waterways in tank vessels.

IMO

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

ICAO / IATA

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

14.6 SPECIAL PRECAUTIONS FOR USER
No information available

14.7 MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS
No information available

SECTION 15: REGULATORY INFORMATION

15.1 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 (EU) No 2019/1021): 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.

Isobutanol (24 - 26 %)
This substance is a flammable restricted for aerosols under item 40.
Formaldehyde (< 1.0 %)
This is a carcinogen substance restricted under item 28. This substance is restricted under item 72. This substance is restricted under item 77.

This product contains a formaldehyde-releasing substance restricted by item 77 of Annex XVII to Regulation (EC) No 1907/2006.

Water Endangering Class (Germany): 2 according to AwSV, 18.04.2017

Inventory Information

If one or more components of this product are not listed on the chemical inventory of interest to you, please contact Product Sustainability & Regulatory Affairs to discuss the options to get it listed or exempted emails: PSRA-Customer-Requests@allnex.com (for Europe and Americas) and Asia.Compliance@allnex.com (for Asia).

European Economic Area (including EU): When purchased and shipped 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.

United Kingdom: When purchased from allnex UK this product is compliant with the UK-REACH Regulation as all its components are either notified, excluded, exempt and/or registered. If the material has been purchased by your legal entity based in GB from an allnex legal entity based in the EEA (EU or Norway) in 2019 or 2020, you can continue to import the material into GB as it is covered by allnex DUIN.

United States (USA): All components of this product are designated as “Active” on the TSCA Inventory or are not required to be listed.

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 Industrial Chemicals (AIIC) or are not required to be listed on AIIC.

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. When purchased from Allnex Korea or Chemart distributor this product is compliant with the ARECs (the Act on the Registration and Evaluation, etc. of Chemical Substances). All its components are either excluded, exempt, pre-notified and/or registered. When purchased from another allnex entity, please contact PSRA-KREACH@allnex.com to check the possibility to be covered by our Only Representative.

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).

Switzerland: All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 24-26).

15.2 CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out.

SECTION 16: OTHER INFORMATION

Reasons for Issue: Revised Section 2
Revised Section 3
Revised Section 11

Date Prepared: 16-Apr-2026
Date of last significant revision: 16-Apr-2026

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

Flammable Liquid Hazard Category 3 - Based on test data or assessment
Carcinogenicity Hazard Category 1B - Calculation method (except if stated differently under SDS section 11)
Acute Toxicity (Inhalation) Hazard Category 4 - Calculation method (except if stated differently under SDS section 11)
Specific Target Organ Toxicity (STOT) - Single Exposure Hazard Category 3 - Calculation method (except if stated differently under SDS section 11)
Skin Corrosion / Irritation Hazard Category 2 - Calculation method (except if stated differently under SDS section 11)
Serious Eye Damage / Eye Irritation Hazard Category 1 - Calculation method (except if stated differently under SDS section 11)

Skin Sensitizer Hazard Category 1A - Calculation method (except if stated differently under SDS section 11)
Aquatic Environment Long-term Hazard Category 4 - Calculation method (except if stated differently under SDS section 12)

Component - Hazard Statements

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

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

Formaldehyde
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H330 - Fatal if inhaled.
- H341 - Suspected of causing genetic defects.
- H350 - May cause cancer.

Formic acid
- H226 - Flammable liquid and vapour.
- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H331 - Toxic if inhaled.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.

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

ADN Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR Agreement Concerning the International Carriage of Dangerous Goods by Road
AIIC Australian Inventory of Industrial Chemicals
ASTM American Society for Testing and Materials
ATE Acute Toxicity Estimate
BCF Bioconcentration Factor
BP Boiling Point
CAS Chemical Abstracts Service
CLP Regulation (EC) No 1272/2008 on the Classification, Labelling and Packaging of Substances and Mixtures
CMR Carcinogen, Mutagen or Reproductive Toxicant
CSA Chemical Safety Assessment
DIN Standard of the German Institute for Standardisation
DNEL Derived No Effect Level
DSL Domestic Substances List (Canada)
EC50 Effective Concentration to 50% of a Test Population
ECHA European Chemicals Agency
ECL Existing Chemicals List (Korea)
EEA European Economic Area
ENCS Existing and New Chemical Substances (Japan)
ERC Environmental Release Category
ES Exposure Scenario
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GLP Good Laboratory Practice
HSNO Hazardous Substances and New Organisms (NZ)
IARC International Agency for Research on Cancer
IATA International Air Transport Association
ILV Indicative Limit Values
LC50 Lethal Concentration to 50% of a Test Population
LD50 Lethal Dose to 50% of a Test Population
n.o.s. Not Otherwise Specified
NFPA National Fire Protection Association
NOAEL No Observed Adverse Effect Level

NOEC No Observed Effect Concentration
OECD Organisation for Economic Co-operation and Development
OEL Occupational Exposure Limit
PBT Persistent, Bioaccumulative and Toxic Substances
PC Product Category
PE Polyethylene
PICCS Philippine Inventory of Chemicals and Chemical Substances
PMT Persistent, Mobile and Toxic Substances
PNEC Predicted No Effect Concentration
ppm Parts Per Million
PROC Process Category
REACH Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals
SAPT Self-Accelerating Polymerization Temperature
SDS Safety Data Sheet
STEL Short Term Exposure Limit
STOT Specific Target Organ Toxicity
SU Sectors of Use
SVHC Substance of Very High Concern
TCSI Taiwan chemical substance inventory
TDS Technical Data Sheet
TSCA Toxic Substances Control Act (USA)
TWA Time Weighted Average
UFI Unique Formula Identifier
UN United Nations
vPvB Very Persistent and Very Bioaccumulative Substances
vPvM Very Persistent and Very Mobile Substances

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 - Industrial uses: Uses of substances as such or in preparations at industrial sites		PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC9	ERC2	Included in Section 8 of this SDS
2	Industrial application of coatings and inks	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites		PROC1 PROC2 PROC3 PROC4 PROC5 PROC7 PROC8a PROC8b PROC9 PROC10 PROC13 PROC15	ERC4 ERC5	Available on request*
3	Professional application of coatings and inks	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)		PROC8a PROC11 PROC13 PROC15	ERC8a	Available on request*

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

Emergency phone numbers for other regions

Asia Pacific

Australia: 1800 074 234 (toll free) or +61 2 8014 4558 (Carechem 24)
China (PRC): +86 532 8388 9090 (NRCC)
India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)
Indonesia: 007 803 011 0293 (Carechem 24)
Japan: +65 3158 1074 (Carechem 24 - Japanese language response available)
Korea: +82 2 3479 8401 (Carechem 24)
Malaysia: +60 3 6207 4347 (Carechem 24)
New Zealand: 0800 446 881 (toll free) or +64 9 929 1483 (Carechem 24)
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)

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)

USA

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

Canada

+1-800-579-7421 (toll free) or +1-215-207-0061 (Carechem 24)

Prepared By: Product Sustainability & Regulatory Affairs Department, http://www.allnex.com/contact

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