SDS: 0041520
Date Prepared: 12-Oct-2021

SAFETY DATA SHEET

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

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

1.1 PRODUCT IDENTIFIER

RESYDROL® EM 6642w/55BG liquid coating resins

Product Description: Polymer solution

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

Intended/Recommended Use: Binder
Uses advised against: -

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Allnex Belgium SA/NV, Anderlechtstraat, 33, 1620 Drogenbos, 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

1.4 EMERGENCY TELEPHONE NUMBER

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:
Europe
+44 (0) 1235 239 670 (Carechem 24)
Middle East, Africa
+44 (0) 1235 239 671 (Carechem 24)
See Section 16 for Emergency phone numbers for other regions.

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
Acute Toxicity (Oral) Hazard Category 4
Acute Toxicity (Inhalation) Hazard Category 4
Skin Corrosion / Irritation Hazard Category 2
Serious Eye Damage / Eye Irritation Hazard Category 2

2.2 LABEL ELEMENTS

Signal Word
Warning

Hazard Statements
H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H332 - Harmful if inhaled.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
EUH208 - Contains formaldehyde. May produce an allergic reaction.

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.
P233 - Keep container tightly closed.
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/hearing protection.
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.
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 to extinguish.
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).
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
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.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P403 + P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container in accordance with local and national regulations.

2.3 OTHER HAZARDS
Not applicable

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)
2-Butoxyethanol 111-76-2	40 - 44	203-905-0	01-2119475108-36	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Methyl Isobutyl ketone 108-10-1	1 - 5	203-550-1	01-2119473980-30	Flam. Liq. 2 (H225) Acute Tox. 4 (H332) STOT SE 3 (H335) Eye Irrit. 2 (H319) EUH066
Formaldehyde 50-00-0	< 0.05	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

Component / CAS No.	REACH SVHC	M-Factor	CLP Specific Concentration Limits	CLP Acute Toxicity Estimates (ATEs)
2-Butoxyethanol 111-76-2				Oral ATE, 1200 mg/kg, , body weight
Methyl Isobutyl ketone 108-10-1				Inhalation ATE, 11 mg/L, , vapour
Formaldehyde 50-00-0			Eye Irrit. 2 H319 5%<=C<25% B,D Skin Corr. 1B H314 C>=25% B,D Skin Irrit. 2 H315 5%<=C<25% B,D Skin Sens. 1 H317 C>=0.2% B,D STOT SE 3 H335 C>=5% B,D	

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 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.

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 NEEDS

Not applicable.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

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

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

6.2 ENVIRONMENTAL PRECAUTIONS

None known.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

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

6.4 REFERENCES 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 only 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. Do not eat, drink or smoke when using this product. 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

Store in a cool, dry, well ventilated place and keep container tightly closed. 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. Keep away from sources of ignition - refrain from smoking. Avoid flammable gas mixtures. Take precautionary measures against electrostatic loading - earthing necessary during loading operations. Vapours may form explosive mixtures with air.

Storage Temperature: Store at 0 - 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

111-76-2 2-Butoxyethanol

United Kingdom: WEL (Workplace Exposure Limits)	25 ppm (TWA) 123 mg/m³ (TWA) (skin) 50 ppm (STEL) 246 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	20 ppm (TWA) 98 mg/m³ (TWA)

	50 ppm (STEL) 246 mg/m³ (STEL) (skin)
Other Value:	Not established

108-10-1 Methyl Isobutyl ketone

United Kingdom: WEL (Workplace Exposure Limits)	50 ppm (TWA) 208 mg/m³ (TWA) (skin) 100 ppm (STEL) 416 mg/m³ (STEL)
Europe ILV (Indicative Limit Values):	20 ppm (TWA) 83 mg/m³ (TWA) 50 ppm (STEL) 208 mg/m³ (STEL)
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

Biological Exposure Limit(s)

111-76-2 2-Butoxyethanol

Biological Monitoring Guidance Values (United Kingdom)	240 mmol/mol creatinine Medium: urine Time: post shift Parameter: Butoxyacetic acid
Biological Exposure Indices (ACGIH)	200 mg/g creatinine (urine - end of shift)

108-10-1 Methyl Isobutyl ketone

Biological Monitoring Guidance Values (United Kingdom)	20 µmol/L Medium: urine Time: post shift Parameter: 4-Methylpentan-2-one
Biological Exposure Indices (ACGIH)	1 mg/L (urine - end of shift)

Derived No Effect Level (DNEL):

2-Butoxyethanol (111-76-2)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	98	mg/m³	Long term, systemic
Worker	inhalation	1091	mg/m³	Short term, systemic
Worker	inhalation	246	mg/m³	Long term, local
General Population	inhalation	59	mg/m³	Long term, systemic
General Population	inhalation	426	mg/m³	Short term, systemic
General Population	inhalation	147	mg/m³	Short term, local
General Population	Oral	6.3	mg/kg/day	Long term, systemic
General Population	Oral	26.7	mg/kg/day	Short term, systemic

Methyl Isobutyl ketone (108-10-1)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	208	mg/m³	Short term, systemic
Worker	inhalation	83	mg/m³	Long term, systemic
Worker	Dermal	11.8	mg/kg/day	Long term, systemic
Consumer	inhalation	155.2	mg/m³	Short term, systemic
Consumer	inhalation	14.7	mg/m³	Long term, systemic
Consumer	Oral	4.2	mg/kg/day	Long term, systemic
Consumer	Dermal	4.2	mg/kg/day	Long term, systemic
Worker	inhalation	208	mg/m³	Short term, local

Worker	inhalation	83	mg/m³	Long term, local
Consumer	inhalation	155.2	mg/m³	Short term, local
Consumer	inhalation	14.7	mg/m³	Long term, local

Formaldehyde (50-00-0)

Use	Route	DNEL	Units	Effects Type
Worker	inhalation	0.75	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	0.375	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

Predicted No Effect Concentration (PNEC):

2-Butoxyethanol (111-76-2)

Compartment	PNEC	Units
Fresh water	8.8	mg/l
Marine water	0.88	mg/l
Sewage treatment plant	463	mg/l
Sediment (fresh water)	34.6	mg/kg
Sediment (marine water)	3.46	mg/kg
Soil	2.33	mg/kg
Secondary Poisoning	20	mg/kg food

Methyl Isobutyl ketone (108-10-1)

Compartment	PNEC	Units
Fresh water	0.6	mg/l
Marine water	0.06	mg/l
Intermittent water release	1.5	mg/l
Sewage treatment plant	27.5	mg/l
Sediment (fresh water)	8.27	mg/kg
Sediment (marine water)	0.83	mg/kg
Soil	1.3	mg/kg

Formaldehyde (50-00-0)

Compartment	PNEC	Units
Fresh water	0.44	mg/l
Marine water	0.44	mg/l
Sediment (fresh water)	2.3	mg/kg
Sediment (marine water)	2.3	mg/kg
Soil	0.2	mg/kg
Sewage treatment plant	0.19	mg/l
Intermittent water release	4.44	mg/l

8.2 EXPOSURE CONTROLS

Engineering Measures:
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:
Wear eye/face protection such as chemical splash proof goggles or face shield.
Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:
Avoid skin contact.
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:
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 30 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.

Formulation & (re)packing of substances and mixtures Control of worker exposure	
Process Category	PROC1 - Use in closed process, no likelihood of exposure 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	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for < 8 hours Handle substance within a closed system. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. Effectiveness: 90%. Use suitable eye protection.

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 < 8 hours Handle substance within a closed system. Transfer via enclosed lines. Avoid dip sampling. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90%. Use suitable eye protection.

Process Category	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC15 - Use as laboratory reagent
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for < 8 hours Clear spills immediately. Provide extract ventilation to points where emissions occur. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90%. Use suitable eye protection.

Process Category	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Risk Management Measures and Operational Conditions	Covers percentage substance in the product up to 100 % (unless stated differently). Operation carried out for < 8 hours Provide extract ventilation to points where emissions occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Use drum pumps or carefully pour from container. Drain down and flush system prior to equipment break-in or maintenance. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90%. Use suitable eye protection.

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 < 8 hours Provide extract ventilation to points where emissions occur. Handle substance within a closed system. Clean transfer lines prior to decoupling. Use drum pumps or carefully pour from container. Avoid spillage when withdrawing pump. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90%. Use suitable eye protection.

Process Category	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 < 8 hours Fill containers/cans at dedicated fill points supplied with local extract ventilation. Put lids on containers immediately after use. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Effectiveness: 90%. Use suitable eye protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid
Colour: clear brown
Odor: organic solvent
Odor Threshold: See Section 8 for exposure limits.
Melting Point: Not available
Boiling Point: 100 - 200 °C
Flammability: Not available
Flammable Limits (% By Vol): Lower: 1.1 Upper: 10.6 (values for solvent)

Flash point:	>= 55 °C DIN EN ISO 1523
Autoignition temperature:	~ 230 °C (value for solvent)
Decomposition Temperature:	Not available
pH:	Not applicable
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	- Not available
Solubility In Water:	Not available
Solubility In Solvent:	Not available
Partition coefficient (n-octanol/water):	Not available
Vapor Pressure:	~ 0.8 hPa @ 20 °C (value for solvent)
Specific Gravity/Density:	0.99 - 1.01 g/cm³ DIN EN ISO 2811-2 @ 20 °C
Vapour density:	Not available
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	Excessively high temperatures and ignition sources. Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.
10.5 INCOMPATIBLE MATERIALS	None known
10.6 HAZARDOUS DECOMPOSITION PRODUCTS	Formaldehyde

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Oral, Skin, Eyes.

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: Harmful if inhaled

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

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

Carcinogenicity: Not Classified. **-** Based on available data and/or professional judgment, the classification criteria are not met.
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: Not Classified. **-** Based on available data and/or professional judgment, the classification criteria are not met.
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		1030 mg/kg
dermal	rabbit	Acute LD50		> 2000 mg/kg
inhalation	rat	Acute LC50	4 hr	4.3 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Irritating
Acute Irritation	eye	Irritating

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data

OTHER INFORMATION
The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

2-Butoxyethanol has acute oral (rat) and dermal (rabbit) LD50 values of 1414 and > 2000 mg/kg, respectively. The 4-hour inhalation LC50 (rat) value for 2-Butoxyethanol is 2.2-2.4 mg/L. Direct contact to 2-butoxyethanol can cause moderate eye and skin irritation. Sensitization was not observed upon dermal exposure to guinea pigs. Repeated overexposure to vapors may cause CNS effects and changes in blood parameters. From the available data, 2-Butoxyethanol is not genotoxic. Fertility was slightly affected at toxic doses, and a slight decrease of the weight of the pups at birth was observed. Carcinogenicity is not expected.

Acute overexposure to methyl isobutyl ketone (MIBK) vapor may cause eye and mucous membrane irritation. Moderate eye irritation may result from contact with the liquid. Repeated skin contact may cause skin dryness or cracking, itching and mild to moderate irritation. The oral LD50 in rats for methyl isobutyl ketone is 5.7 ml/kg, and the dermal LD50 in rabbits is greater than 16.0 g/kg. A group of 6 rats survived a 4-hour inhalation exposure to 2000 ppm (8.36 mg/L). Overexposure to MIBK vapor may cause respiratory tract irritation and headache, dizziness, nausea or other CNS 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.

SECTION 12: ECOLOGICAL INFORMATION

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

This material is not classified as dangerous for the environment.
The ecological assessment for this material is based on an evaluation of its components.

12.1 ECOTOXICITY
Not available

12.2 PERSISTENCE AND DEGRADABILITY
Not available

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
2-Butoxyethanol (111-76-2)	LC50 = 1490 mg/L - Lepomis macrochirus (96h) LC50 = 1474 mg/L - Oncorhynchus mykiss (96h) NOEC > 100 mg/L - Brachydanio rerio (21d)
Methyl Isobutyl ketone (108-10-1)	LC50 496 - 514 mg/L - Pimephales promelas (96h)
Formaldehyde (50-00-0)	LC50 = 6.7 mg/L - Morone saxatilis (96h)

Component / CAS No.	Toxicity to Water Flea
2-Butoxyethanol (111-76-2)	EC50 > 1000 mg/L - Daphnia magna (48h) NOEC > 100 mg/L - Daphnia magna (21d)
Methyl Isobutyl ketone (108-10-1)	EC50 = 170 mg/L - Daphnia magna (48h)
Formaldehyde (50-00-0)	EC50 = 5.8 mg/L - Daphnia pulex (48h)

Component / CAS No.	Toxicity to Algae
2-Butoxyethanol (111-76-2)	EC50 = 623 mg/L - pseudokirchneriella subcapitata (72hrs) NOEC = 88 mg/L - pseudokirchneriella subcapitata (72hrs)
Methyl Isobutyl ketone (108-10-1)	EC50 = 400 mg/L - Pseudokirchneriella subcapitata (96h)
Formaldehyde (50-00-0)	EC50 = 4.89 mg/L - Desmodesmus subspicatus (72hrs)

Component / CAS No.	Partition coefficient
2-Butoxyethanol (111-76-2)	0.81
Methyl Isobutyl ketone (108-10-1)	1.19
Formaldehyde (50-00-0)	0.35

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 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.

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
Shipped under Exception:	Carriage in accordance with 2.2.3.1.5.1
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
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 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE
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 (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.

Methyl Isobutyl ketone (1 - 5 %)
This substance is a flammable restricted for aerosols under item 40.

Water Endangering Class (Germany): 1 according to AwSV, 18.04.2017

Inventory Information

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 States (USA): One or more components of this product are NOT included on the U.S. Toxic Substances Control Act (TSCA) Inventory. The chemical, physical, and toxicological properties of this material have not been fully investigated. Its handling or use may be hazardous, and it must be used under the supervision of technically qualified individuals. Materials not included on the TSCA Inventory may only be used for research and development (R&D) purposes or in other TSCA exempt activities.

Canada: One or more components of this product are NOT included on the Canadian Domestic Substances List (DSL).

Australia: One or more components of this product have NOT yet been included in the Australian Inventory of Industrial Chemicals (AIIC) or assessed by AICIS.

China: One or more components of this product are NOT included on the Chinese (IECSC) inventory.

Japan: One or more components of this product are NOT included on the Japanese (ENCS and/or ISHL) inventories.

Korea: One or more components of this product are NOT included on the Korean (ECL) inventory.

Philippines: One or more components of this product are NOT included on the Philippine (PICCS) inventory.

Taiwan: One or more components of this product are NOT included in 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 8
Revised Section 11

Revised Section 16

Date Prepared: 12-Oct-2021
Date of last significant revision: 12-Oct-2021

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

2-Butoxyethanol
- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H332 - Harmful if inhaled.

Methyl Isobutyl ketone
- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H332 - Harmful if inhaled.
- H335 - May cause respiratory irritation.

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.

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 PROC15	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	Available on request*
3.	Professional application of coatings and inks	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)		PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC9 PROC10 PROC11 PROC13	ERC8a ERC8d	Available on request*

				PROC15 PROC19		

* 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: +61 1800 022 037 (Allnex Australia)
China (PRC): +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)
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)
Canada and USA
+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)