PRIMGREEN(TM) L.A.T. 12035

1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Specialty Polyamides

Customer Service Telephone Number:	(800) 932-0420 (Monday through Friday, 8:00 AM to 5:00 PM EST)

Emergency Information

Transportation:	CHEMTREC: (800) 424-9300 (24 hrs., 7 days a week)
Medical:	Rocky Mountain Poison Center: (866) 767-5089 (24 hrs., 7 days a week)

Product Information

Product name:	PRIMGREEN(TM) L.A.T. 12035
Synonyms:	Not available
Molecular formula:	Mixture
Chemical family:	Epoxy resin solution
Product use:	Adhesion promoter

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview

Color:	amber
Physical state:	liquid
Odor:	Strong solvent odour

***Classification of the substance or mixture:**

Flammable liquids, Category 3, H226
Skin irritation, Category 2, H315
Eye irritation, Category 2A, H319
Skin sensitisation, Category 1, H317
Carcinogenicity, Category 1A, H350

*For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labelling

Hazard pictograms:

Signal word: **Danger**

Hazard statements:

H226 : Flammable liquid and vapour.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H350 : May cause cancer.

Supplemental Hazard Statements:

Processing may release vapors and/or fumes which cause eye, skin and respiratory tract irritation.

Precautionary statements:

Prevention:
P201 : Obtain special instructions before use.
P202 : Do not handle until all safety precautions have been read and understood.
P210 : Keep away from heat, sparks, open flames, hot surfaces. 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.
P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 : Wash skin thoroughly after handling.
P272 : Contaminated work clothing should not be allowed out of the workplace.
P280 : Wear protective gloves or eye protection or face protection.
P281 : Use personal protective equipment as required.

Response:
P303+P361+P353 : IF ON SKIN (or hair): Remove or take off immediately all contaminated clothing. Rinse skin with water and shower.
P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 : If eye irritation persists: Get medical advice/ attention.
P362 : Take off contaminated clothing and wash before reuse.
P370 + P378 : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:
P403 + P235 : Store in a well-ventilated place. Keep cool.
P405 : Store locked up.

Disposal:
P501 : Dispose of contents or container to an approved waste disposal plant.

Supplemental information:

Potential Health Effects:
If swallowed, may cause gastrointestinal irritation including nausea and vomiting. Due to the presence of the solvent : Prolonged or repeated exposure may cause: Prolonged or repeated skin contact may cause defatting resulting in drying, redness and rash. Contains high molecular weight polymer(s). Effects due to processing releases: Irritating to eyes, respiratory system and skin.
Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness, (severity of effects depends on extent of exposure).

Other:

Dried product may stick to the skin causing irritation upon removal. This product may release fume and/or vapor of variable composition depending on processing time and temperature.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Water	7732-18-5	>= 60 - <= 100 %	Not classified
Proprietary component	Proprietary*	>= 10 - < 30 %	Not classified
butan-1-ol; n-butanol	71-36-3	>= 10 - < 30 %	H226, H302, H315, H319, H335 + H336
Ethanol, 2-butoxy-	111-76-2	>= 10 - < 30 %	H302, H331, H315, H319
Phenol, polymer with formaldehyde	9003-35-4	>= 5 - < 10 %	H319, H317
Ethanol, 2-(2-butoxyethoxy)-	112-34-5	>= 5 - < 10 %	H319
Formaldehyde	50-00-0	< 0.1 %	H301, H311, H330, H314, H317, H318, H334, H335, H341, H350

*The specific chemical identity is withheld because it is trade secret information of Arkema Inc.

**For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

Inhalation:
If inhaled, remove victim to fresh air.

Skin:
In case of contact, immediately flush skin with soap and plenty of water. Get medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion:
If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed:

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Statements and Supplemental Information if applicable) and Section 11 (Toxicology Information) of this SDS.

4.3. Indication of any immediate medical attention and special treatment needed:

Unless otherwise noted in Notes to Physician, no specific treatment noted; treat symptomatically.

Notes to physician:
Clinical data suggests that the ethylene glycol monobutyl ether component of this product may have a mechanism of intoxication similar to ethylene glycol. On that basis, treatment similar to ethylene glycol intoxication may be of benefit. Signs and symptoms of ethylene glycol or ethylene glycol monobutyl ether poisoning include anion gap metabolic acidosis, central nervous system depression, renal tubular injury and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed.
In cases where large amounts of this product have been ingested, consider therapy with fomepizole (4-methyl pyrazole) or ethanol in an attempt to inhibit the metabolism of ethylene glycol monobutyl ether by alcohol dehydrogenase. Hemodialysis may also be required. Consult standard literature or a regional poison center for treatment details.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media (suitable):
Water spray, Carbon dioxide (CO2), Foam, Dry chemical

Extinguishing media (unsuitable):
Water may be ineffective., Do not use a solid water stream as it may scatter and spread fire.

Protective equipment:
Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Further firefighting advice:

Cool closed containers exposed to fire with water spray.
Closed containers of this material may explode when subjected to heat from surrounding fire.
After a fire, wait until the material has cooled to room temperature before initiating clean-up activities.
Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:
When burned, the following hazardous products of combustion can occur:
Carbon oxides
Hazardous organic compounds
Nitrogen oxides

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, Emergency procedures, Methods and materials for containment/clean-up:
Prevent further leakage or spillage if you can do so without risk. Evacuate area of all unnecessary personnel. Ventilate the area. Eliminate all ignition sources. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay and then wet down (dampen) the mixture with water. Sweep or scoop up using non-sparking tools and place into suitable properly labeled containers for prompt disposal. The sweepings should be wetted down further with water. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Protective equipment:
Appropriate personal protective equipment is set forth in Section 8.

SECTION 7: HANDLING AND STORAGE

Handling

General information on handling:
Do not taste or swallow.
Do not breathe vapor or mist.
Do not get in eyes, on skin, or on clothing.
Keep away from heat, sparks and flames.
No smoking.
Use only with adequate ventilation.
Wash thoroughly after handling.
Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.
Keep container tightly closed.
Container hazardous when empty.
Follow label warnings even after container is emptied.
RESIDUAL VAPORS MAY EXPLODE ON IGNITION.
DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.
Improper disposal or reuse of this container may be dangerous and/or illegal.
Emptied container retains vapor and product residue.

Storage

General information on storage conditions:
Keep in a dry, cool place. Keep away from direct sunlight. Keep container closed when not in use. Store in upright position only. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate when transferring material. All metal and groundable storage containers, including but not limited to drums, cylinders, Returnable Intermodal Bulk Containers (RIBCs) and Class C Flexible Intermodal Bulk Containers (FIBCs) must be bonded and grounded during filling and emptying operations. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

Storage incompatibility – General:
Store separate from:
Strong oxidizing agents
Strong acids
Strong bases
Halogens

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

butan-1-ol; n-butanol (71-36-3)

US. ACGIH Threshold Limit Values

Time weighted average	20 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL:	100 ppm (300 mg/m3)

Ethanol, 2-butoxy- (111-76-2)

US. ACGIH Threshold Limit Values

Time weighted average	20 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL:	50 ppm (240 mg/m3)

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Skin designation	
Remarks:	Can be absorbed through the skin.

Ethanol, 2-(2-butoxyethoxy)- (112-34-5)

US. ACGIH Threshold Limit Values

Form:	Inhalable fraction and vapor.
Time weighted average	10 ppm

Formaldehyde (50-00-0)

US. ACGIH Threshold Limit Values

Ceiling Limit Value	0.3 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Reference:	
Remarks:	29 CFR 1910.1048

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

OSHA Action level:	0.5 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Time weighted average	0.75 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Short Term Exposure Limit (STEL):	2 ppm

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:
Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Respiratory protection:
Do not breathe vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. Consult OSHA Standard (29 CFR § 1910.1048 - Formaldehyde) to determine required type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing immediately and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

Eye protection:
Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color:	amber
Physical state:	liquid

Odor:	Strong solvent odour
Odor threshold:	No data available.
Flash point	124 °F (51 °C) (Method: closed cup)
Auto-ignition temperature:	644 °F (340 °C)
Lower flammable limit (LFL):	1 %(V)
Upper flammable limit (UFL):	25 %(V)
pH:	8.1
Density:	950 - 1,050 g/cm3
Specific Gravity (Relative density):	0.950 - 1.050 Water=1 (liquid)
Vapor pressure:	15 mmHg (68 °F (20 °C))
Vapor density:	No data available.
Boiling point/boiling range:	> 100.0 °F (> 37.8 °C)
Melting point/range:	No data available.
Freezing point:	< 23 °F (< -5 °C)
Evaporation rate:	No data available
Solubility in water:	partly soluble
Viscosity, dynamic:	No data available
% Volatiles:	> 42 %
Oil/water partition coefficient:	No data available.
Thermal decomposition:	> 752 °F (> 400 °C)
Flammability:	See GHS Classification in Section 2 if applicable

SECTION 10: STABILITY AND REACTIVITY

Stability:
The product is stable under normal handling and storage conditions.

Hazardous reactions:
Hazardous polymerization does not occur.

Materials to avoid:
Oxidizing agents
Halogens
Strong acids and strong bases

Conditions / hazards to avoid:
Heat, flames and sparks. See Hazardous Decomposition Products below.

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products :
Carbon oxides
Nitrogen oxides
Hazardous organic compounds

SECTION 11: TOXICOLOGICAL INFORMATION

Data on this material and/or its components are summarized below.

Data for PRIMGREEN(TM) L.A.T. 12035

Acute toxicity

Oral:
Acute toxicity estimate > 5,000 mg/kg.

Dermal:
Acute toxicity estimate > 5,000 mg/kg.

Inhalation:
4 h Acute toxicity estimate 21.07 mg/l. (vapor)

Data for Proprietary component (Proprietary)

Other information
The information presented is from representative materials in this chemical class. The results may vary depending on the test substance. Effects due to processing releases or residual monomer:
Possible cross sensitization with other acrylates and methacrylates.

Data for butan-1-ol; n-butanol (71-36-3)

Acute toxicity

Oral:
May be harmful if swallowed. (rat) LD50 = 2,292 mg/kg.

Dermal:
May be harmful in contact with skin. (rabbit) LD50 = 3,430 mg/kg.

Inhalation:
No deaths occurred. (rat) 4 h LC0 > 17.76 mg/l. (vapor)

Specific target organ toxicity - single exposure:
May cause drowsiness or dizziness., May cause respiratory irritation.

Skin Irritation:
Causes skin irritation. (rabbit) (1 h) (occluded exposure)

Eye Irritation:
Causes serious eye irritation. (rabbit)

Skin Sensitization:
Not a sensitizer. LLNA: Local Lymph Node Assay. (mouse) No skin allergy was observed.

Repeated dose toxicity
Subchronic oral administration to rat / affected organ(s): central nervous system / signs: incoordination, changes in motor activity

Subchronic inhalation administration to rat / signs: central nervous system depression / (data for a similar material)

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in laboratory tests using: mice

Developmental toxicity
Exposure during pregnancy. inhalation (rat) / No birth defects were observed. (skeletal variations, delays in development, at doses that produce effects in mothers)
Exposure during pregnancy. drinking water (rat) / No birth defects were observed. (skeletal variations, delays in development, at doses that produce effects in mothers)

Reproductive effects
Reproduction test. oral, inhalation (rat) / No toxicity to reproduction

Human experience
General:
Central nervous system effects: headache, nausea, dizziness, drowsiness, loss of consciousness.

Human experience
Inhalation:

Upper respiratory tract: nose, irritation, sore throat. (based on reports of occupational exposure to workers) (vapor) Exposures exceeded recommended occupational exposure limit.

Nervous system: hearing loss. (repeated or prolonged exposure) Exposure to other materials makes the association questionable.

Human experience
Skin contact:
Skin: dry skin. (repeated or prolonged exposure)

Human experience
Eye contact:
Eyes: irritation. (based on reports of occupational exposure to workers) (vapor) Exposures exceeded recommended occupational exposure limit.

Data for Ethanol, 2-butoxy- (111-76-2)

Acute toxicity

Oral:
Harmful if swallowed. (guinea pig) LD50 = 1,740 mg/kg.

Dermal:
May be harmful in contact with skin. (rabbit) LD50 > 2,000 mg/kg.

Inhalation:
Toxic if inhaled. (rat) 4 h LC50 = 2.2 mg/l. (vapor)

Skin Irritation:
Causes skin irritation. (rabbit)

Eye Irritation:
Causes serious eye irritation. (rabbit)

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. No skin allergy was observed.

Repeated dose toxicity
Subchronic drinking water administration to rat / affected organ(s): blood / signs: anemia / damage to red blood cells

Subchronic drinking water administration to rat / affected organ(s): liver / signs: changes in organ structure or function

Subchronic drinking water administration to mouse / No adverse systemic effects reported.

Subchronic inhalation administration to rat / affected organ(s): blood / signs: anemia / damage to red blood cells

Subchronic dermal administration to rabbit / No adverse systemic effects reported.

Carcinogenicity
Chronic inhalation administration to male rat / No increase in tumor incidence was reported.

Chronic inhalation administration to female rat / affected organ(s): adrenal gland / Equivocal response.

Chronic inhalation administration to mouse / affected organ(s): liver, forestomach / Increase in tumor incidence was reported. (Effect occurred at levels causing significant irritation.)
Classified by the International Agency for Research on Cancer as: Group 3: Unclassifiable as to carcinogenicity in humans.

Genotoxicity

Assessment in Vitro:
Generally, no genetic changes were observed in laboratory studies using: bacteria, animal cells, human cells

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in laboratory tests using: rats, mice

Developmental toxicity
Exposure during pregnancy. inhalation (rat, rabbit) / No birth defects were observed. (at doses that produce effects in mothers)
Exposure during pregnancy. oral (rat, mouse) / No birth defects were observed. (at doses that produce effects in mothers)
Exposure during pregnancy. dermal application (rat) / No birth defects were observed. (at doses that produce effects in mothers)

Reproductive effects
Continuous breeding studies. drinking water (mouse) / Reduced fertility. / (toxic effects also observed in the parental animals at these doses)

Human experience
General:
Overexposure may cause CNS depression including headache, dizziness, nausea and loss of consciousness.

Human experience
Inhalation:
Upper respiratory tract: slight irritation.

Eyes: slight irritation.

Central nervous system: headache.

Human experience
Skin contact:
Can be absorbed through the skin.

Human experience
Ingestion:

Central nervous system depression. (effects of excessive exposure) (accidental ingestion or suicide attempts)

Blood: blood chemistry changes, acidosis. (effects of excessive exposure) (accidental ingestion or suicide attempts)

Data for Phenol, polymer with formaldehyde (9003-35-4)

Acute toxicity

Oral:
Practically nontoxic. (rat) LD50 > 5,000 mg/kg.

Dermal:
May be harmful in contact with skin. (rat) LD50 > 2,000 mg/kg.

Inhalation:
No deaths occurred. (rat) 6 h LC0 > 1.6 mg/l.

Skin Irritation:
Practically non-irritating. (rabbit) (24 h)

Eye Irritation:
Causes serious eye irritation. (rabbit)

Skin Sensitization:
May cause an allergic skin reaction. Repeated skin exposure. Skin allergy was observed.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells

Genetic changes were observed in laboratory tests using: human cells

Other information
The information presented is from representative materials with this Chemical Abstract Service (CAS) Registry number. The results vary depending on the size and composition of the test substance.

Human experience
Inhalation:
Upper respiratory tract: decreased lung function, irritation, respiratory distress. (based on reports of occupational exposure to workers)

Human experience
Skin contact:
Skin allergy was observed.. (repeated or prolonged exposure)

skin lesions. (based on reports of occupational exposure to workers)

Human experience

Eye contact:
Eye: irritating. (based on reports of occupational exposure to workers)

Data for Ethanol, 2-(2-butoxyethoxy)- (112-34-5)

Acute toxicity

Oral:
May be harmful if swallowed. (mouse) LD50 = 2,410 mg/kg.

Dermal:
May be harmful in contact with skin. (rabbit) LD50 = 2,764 mg/kg.

Inhalation:
No deaths occurred. (rat) 2 h LC0 = 0.193 mg/l. (vapor)

Skin Irritation:
Causes mild skin irritation. (rabbit) (4 h) (occluded exposure)

Eye Irritation:
Causes serious eye irritation. (rabbit)

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. No skin allergy was observed.

Repeated dose toxicity
Subchronic dermal administration to rat / affected organ(s): skin / signs: Local irritation

Subchronic drinking water administration to rat / affected organ(s): liver, kidney / signs: structural organ changes

Subchronic inhalation administration to rat / No adverse systemic effects reported.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in laboratory tests using: fruit flies, mice

Developmental toxicity
Exposure during pregnancy. dietary (rat) / No birth defects were observed.
Exposure during pregnancy. Dermal (rabbit) / No birth defects were observed. (levels produced toxic effects in the mothers and offspring)

Reproductive effects
Reproduction test. Dermal (rat) / No toxicity to reproduction
Reproduction test. Oral (rat) / No toxicity to reproduction

Human experience
Skin contact:
Skin: contact dermatitis, itching, irritation, rash. Sensitization described in isolated cases.

Data for Formaldehyde (50-00-0)

Acute toxicity

Oral:
Toxic if swallowed. (guinea pig) LD50 = 260 mg/kg.

Dermal:
Toxic in contact with skin. (rabbit) LD50 = 270 mg/kg.

Inhalation:
Fatal if inhaled. (rat) 4 h LC50 (= 463 ppm). (gas)

Specific target organ toxicity - single exposure:
May cause respiratory irritation.

Skin Irritation:
Causes severe skin burns. (rabbit)

Eye Irritation:
Causes serious eye damage. (rabbit)

Sensitization:
May cause allergy or asthma symptoms or breathing difficulties if inhaled. (mouse)

Skin Sensitization:
May cause an allergic skin reaction. Guinea pig maximization test. Skin allergy was observed. (Strong sensitizer)

May cause an allergic skin reaction. LLNA: Local Lymph Node Assay. (mouse) Skin allergy was observed. (Strong sensitizer)

Repeated dose toxicity
Repeated inhalation administration to rat, mouse, monkey / affected organ(s): Nasal epithelium, upper respiratory tract / signs: changes in organ structure or function, hyperplasia, inflammation / No significant impairment of function.

Repeated oral administration to rat / affected organ(s): Stomach / signs: Hyperkeratosis by local irritant effect on gastric mucosa, changes in organ structure or function / No significant impairment of function.

Carcinogenicity
Chronic inhalation administration to rat / affected organ(s): upper respiratory tract / Increased incidence of tumors was reported.

Chronic inhalation administration to mouse, hamster / No increase in tumor incidence was reported.

Chronic drinking water administration to rat / affected organ(s): Gastro-intestinal tract, Haematopoietic system / Increased incidence of tumors was reported.
Classified by the International Agency for Research on Cancer as: Group 1: Carcinogenic to humans. Listed by the National Toxicology Program as: Known human carcinogen. Regulated by OSHA as a carcinogen.

Genotoxicity

Assessment in Vitro:
Both positive and negative responses for genetic changes were observed in laboratory tests using: human cells, animal cells, bacteria, yeast

Genotoxicity

Assessment in Vivo:
Both positive and negative responses for genetic changes were observed in laboratory tests using: rats, mice, fruit flies

Developmental toxicity
Exposure during pregnancy. Inhalation (rat) / No birth defects were observed.
Exposure during pregnancy. Oral (mouse) / No birth defects were observed.

Human experience
Skin contact:
Skin: corrosive.

Human experience
Eye contact:
Eye: Severe irritation.

Human experience
Ingestion:
Gastro-intestinal tract: Gastrointestinal discomfort. (extent of injury depends on severity of exposure)

SECTION 12: ECOLOGICAL INFORMATION

Chemical Fate and Pathway
Data on this material and/or its components are summarized below.

Data for butan-1-ol; n-butanol (71-36-3)

Biodegradation:
Readily biodegradable. (20 d) biodegradation 92 %

Octanol Water Partition Coefficient:
log Pow: = 1

Data for Ethanol, 2-butoxy- (111-76-2)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 90 %

Octanol Water Partition Coefficient:
log Pow: = 0.81, at 77 °F (25 °C) pH = 7

Data for Phenol, polymer with formaldehyde (9003-35-4)

Biodegradation:
Readily biodegradable. (18 d) biodegradation > 60 %

Octanol Water Partition Coefficient:
log Pow: = 3.564

Data for Ethanol, 2-(2-butoxyethoxy)- (112-34-5)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 85 %

Octanol Water Partition Coefficient:
log Pow: = 1

Ecotoxicology
Data on this material and/or its components are summarized below.

Data for butan-1-ol; n-butanol (71-36-3)

Aquatic toxicity data:
Practically nontoxic. Pimephales promelas (fathead minnow) 96 h LC50 = 1,376 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EC50 = 1,328 mg/l

Algae:
Practically nontoxic. Pseudokirchneriella subcapitata (algae) 96 h ErC50 = 225 mg/l

Microorganisms:
Pseudomonas putida 17 h EC50 = 4,390 mg/l

Chronic toxicity to aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 21 d NOEC (reproduction) = 4.1 mg/l

Chronic toxicity to aquatic plants:
Practically nontoxic. Pseudokirchneriella subcapitata (green algae) 96 h NOEC = 129 mg/l

Data for Ethanol, 2-butoxy- (111-76-2)

Aquatic toxicity data:
Practically nontoxic. Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 1,474 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h LC50 = 1,800 mg/l

Algae:
Practically nontoxic. Pseudokirchneriella subcapitata (green algae) 72 h EC50 = 911 mg/l

Microorganisms:
Pseudomonas putida 16 h EC 3 = 700 mg/l

Chronic toxicity to fish:
Practically nontoxic. Danio rerio (zebra fish) 21 d NOEC > 100 mg/l

Chronic toxicity to aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 21 d NOEC (Reproduction inhibition) = 100 mg/l

Chronic toxicity to aquatic plants:
Practically nontoxic. Pseudokirchneriella subcapitata (green algae) 72 d NOEC = 88 mg/l

Data for Phenol, polymer with formaldehyde (9003-35-4)

Aquatic toxicity data:
Practically nontoxic. Oncorhynchus mykiss (rainbow trout) 48 h LC50 = 185 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia pulex (Water flea) 48 h EC50 = 172 mg/l

Algae:
Practically nontoxic. Desmodesmus subspicatus (green algae) 24 h EC50 = 575 mg/l

Data for Ethanol, 2-(2-butoxyethoxy)- (112-34-5)

Aquatic toxicity data:
Practically nontoxic. Lepomis macrochirus (Bluegill sunfish) 96 h LC50 = 1,300 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EC50 > 100 mg/l

Algae:
Practically nontoxic. Desmodesmus subspicatus (green algae) 96 h ErC50 > 100 mg/l

Microorganisms:
Respiration inhibition / Activated sludge 30 min EC10 > 2,995 mg/l

Chronic toxicity to aquatic plants:
Practically nontoxic. Desmodesmus subspicatus (green algae) 96 h NOEC r > 100 mg/l

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal:
Disposal via incineration is recommended. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

SECTION 14: TRANSPORT INFORMATION

US Department of Transportation (DOT)

UN Number	:	1866
Proper shipping name	:	Resin solution
Class	:	3
Packaging group	:	III
Marine pollutant	:	no
Reportable quantity	:	5000 lbs (n-butanol)

International Maritime Dangerous Goods Code (IMDG)

UN Number	:	1866
Proper shipping name	:	RESIN SOLUTION
Class	:	3
Packaging group	:	III
Marine pollutant	:	no
Flash point	:	124 °F (51 °C)

SECTION 15: REGULATORY INFORMATION

Chemical Inventory Status

US. Toxic Substances Control Act	TSCA	The components of this product are all on the Active TSCA Inventory.
Canadian Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC (CN)	Does not conform
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	Does not conform
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	Does not conform
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	Conforms to
Australia Inventory of Chemical Substances (AICS)	AICS	Does not conform

United States – Federal Regulations

SARA Title III – Section 302 Extremely Hazardous Chemicals:

Chemical name	CAS-No.	SARA Reportable Quantities	SARA Threshold Planning Quantity
Phenol, 2-methyl-	95-48-7	100 lbs	1000 lbs 10000 lbs

SARA Title III - Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard, Fire Hazard

SARA Title III – Section 313 Toxic Chemicals:
The following components are subject to reporting levels established by SARA Title III, Section 313:

Chemical name	CAS-No.	De minimis concentration	Reportable threshold:
butan-1-ol; n-butanol	71-36-3	1.0 %	10000 lbs (Otherwise used (non-manufacturing/processing)) 25000 lbs (Manufacturing and processing)
Ethanol, 2-butoxy-	111-76-2	1.0 %	25000 lbs (Manufacturing and processing) 10000 lbs (Otherwise used (non-manufacturing/processing))
Ethanol, 2-(2-butoxyethoxy)-	112-34-5	1.0 %	25000 lbs (Manufacturing and processing) 10000 lbs (Otherwise used (non-manufacturing/processing))

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

Chemical name	CAS-No.	Reportable quantity
butan-1-ol; n-butanol	71-36-3	5000 lbs
Phenol, 2-methyl-	95-48-7	100 lbs

United States – State Regulations

New Jersey Right to Know

Chemical name	CAS-No.
butan-1-ol; n-butanol	71-36-3
Ethanol, 2-butoxy-	111-76-2
Ethanol, 2-(2-butoxyethoxy)-	112-34-5

New Jersey Right to Know – Special Health Hazard Substance(s)

Chemical name	CAS-No.
butan-1-ol; n-butanol	71-36-3
Ethanol, 2-butoxy-	111-76-2

Pennsylvania Right to Know

Chemical name	CAS-No.
Proprietary component	Proprietary
butan-1-ol; n-butanol	71-36-3
Ethanol, 2-butoxy-	111-76-2
Phenol, polymer with formaldehyde	9003-35-4
Ethanol, 2-(2-butoxyethoxy)-	112-34-5
Phenol, 2-methyl-	95-48-7
Formaldehyde	50-00-0

Pennsylvania Right to Know – Environmentally Hazardous Substance(s)

Chemical name	CAS-No.
butan-1-ol; n-butanol	71-36-3
Ethanol, 2-butoxy-	111-76-2

Ethanol, 2-(2-butoxyethoxy)-	112-34-5
Phenol, 2-methyl-	95-48-7
Formaldehyde	50-00-0

Pennsylvania Right to Know – Special Hazardous Substance(s)

Chemical name	CAS-No.
Formaldehyde	50-00-0

California Prop. 65
WARNING! This product contains a chemical known to the State of California to cause cancer.

Chemical name	CAS-No.
Formaldehyde	50-00-0

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H335 + H336	May cause respiratory irritation, and drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

Miscellaneous:

Other information:	Refer to National Fire Protection Association (NFPA) Codes 30, 70, 77, and 497 and OSHA 29 CFR 1910.106, for safe handling.

Latest Revision(s):

Reference number:	200020905
Date of Revision:	09/08/2021
Date Printed:	01/04/2023

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