

**GHS COMPLIANT SAFETY DATA SHEET**

TO COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR.1910.1200 & THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

**SECTION 1: IDENTIFICATION**

PRODUCT NAME	Resiflow <sup>®</sup> 2N
MFR.'S CODE ID/SYNONYMS	Resiflow <sup>®</sup> 2N
CAS NUMBER	Mixture (see Sections 3 or 8)
PRODUCT USE	Flow Control Agent for Waterborne Coatings
RESTRICTIONS ON USE	None
MANUFACTURER/SUPPLIER	Estron Chemical, Inc.
ADDRESS	807 North Main Street, Calvert City, KY 42029 USA
GENERAL INFORMATION	(270) 395-4195
EMERGENCY TELEPHONE	CHEMTREC (800) 424-9300



**SECTION 2: HAZARDS IDENTIFICATION**

**Signal Word:** *Danger*

**GHS Classification**

Physical	Health	Environmental
Flammable Liquids – Category 2	Acute Toxicity (Oral, Dermal, Inhalation) – Category 4 Skin Corrosion/Irritation – Category 2 Serious Eye Damage/Irritation – Category 2A Specific Target Organ Toxicity, Single Exposure (Central Nervous System) – Category 3	None

**GHS Label**

 	
<p><b>Symbols:</b> Flame      Exclamation Mark</p>	
<p><b>Hazard Statements</b>  H225: Highly flammable liquid and vapour  H302: Harmful if swallowed  H312: Harmful in contact with skin  H315: Causes skin irritation  H319: Causes serious eye irritation  H332: Harmful if inhaled  H336: May cause drowsiness or dizziness</p>	<p><b>Precautionary Statements</b>  <i>Prevention</i>  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/light/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 exposed skin thoroughly after handling.  P270: Do not eat, drink or smoke when using this product.  P271: Use only outdoors or in a well-ventilated area.  P280: Wear protective gloves/protective clothing/eye protection/face protection.    <i>Response</i>  P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  P302+352: IF ON SKIN: Wash with plenty of soap and water.  P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p>

	<p>P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P312: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P321: Specific treatment (see supplemental first aid instructions on this label)</p> <p>P330: Rinse mouth.</p> <p>P332+313: If skin irritation occurs: Get medical advice/attention.</p> <p>P337+313: If eye irritation persists get medical advice/attention.</p> <p>P362+P364: Take off immediately all contaminated clothing and wash it before reuse.</p> <p>P370+378: In case of fire: Use foam, dry chemical powder, carbon dioxide or water fog to extinguish.</p> <p><i>Storage</i></p> <p>P403+233+235: Store in a well ventilated place. Keep container tightly closed. Keep cool.</p> <p>P405: Store locked up.</p> <p><i>Disposal</i></p> <p>P501: Dispose of contents/container to an authorized hazardous waste handler.</p>
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HAZARDS NOT OTHERWISE CLASSIFIED: None identified.

**SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS**

INGREDIENTS	CAS #	%	CLASSIFICATION
Acrylic Polymer	Proprietary	49.0 – 51.0	None identified
2-Butoxyethanol	111-76-2	44.0 – 46.0	Flammable Liquids – Category 4 Acute Toxicity (Oral, Dermal, Inhalation) – Category 4 Skin Corrosion/Irritation – Category 2 Serious Eye Damage/Irritation – Category 2A
2-Propanol	67-63-0	4.0 – 6.0	Flammable Liquids – Category 2 Serious Eye Damage/Irritation – Category 2A Specific Target Organ Toxicity, Single Exposure (Central Nervous System) – Category 3

(See Section 8 for Exposure Limits)

**SECTION 4: FIRST-AID MEASURES**

**SYMPTOMS OF EXPOSURE**

ACUTE	Skin or serious eye irritation. Drowsiness or dizziness. Nausea.
DELAYED	Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Headache. Nausea. Unconsciousness.
INHALATION	Harmful if inhaled and may cause drowsiness or dizziness. If inhaled, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing begin artificial respiration and get medical aid.
SKIN CONTACT	Harmful in contact with skin and causes skin irritation. If on skin, wash with plenty of soap and water. Call a poison center or physician if you feel unwell. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
EYE CONTACT	Causes serious eye irritation. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists get medical advice/attention.
INGESTION	Harmful if swallowed. If swallowed, call a poison center or physician if you feel unwell. Rinse mouth.
SPECIFIC TREATMENT	No other specific treatments are known or have been identified.

## **SECTION 5: FIRE FIGHTING MEASURES**

FLAMMABILITY CLASSIFICATION	Flammable Liquid Class IB
FLAMMABLE LIMITS	LEL: 1.2 %, by volume of solvent. UEL: 10.8 %, by volume of solvent.
HAZARDOUS COMBUSTION PRODUCTS	Carbon Dioxide, Carbon Monoxide.
EXTINGUISHING MEDIA	Dry Chemical, Foam, CO <sub>2</sub> , Water Fog
UNUSUAL FIRE AND EXPLOSION HAZARDS	Solvent vapors may travel in the work place. Since even residual amounts can ignite explosively, ensure all ignition sources are removed from the area. Solid stream of water may spread fire.
SPECIAL FIRE FIGHTING PROCEDURES	Wear self-contained breathing apparatus and protective suit when fighting fire. Solid streams of water may spread the fire.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS	As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full (Bunker) protective gear.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS	Prevent contact with skin, eyes and clothing. Ensure adequate ventilation.
PROTECTIVE EQUIPMENT	See Personal Protective Equipment in Section 8.
EMERGENCY PROCEDURES	Avoid unnecessary exposure to bystanders, prevent contact with open flames or high heat sources. Isolate the area and eliminate all ignition sources. Ground and bond all containers and handling equipment. Pump with explosion-proof equipment.
ENVIRONMENTAL PRECAUTIONS	Obey relevant local, state, provincial and federal laws and regulations. Do not allow the product to enter public drainage systems or open water courses.
METHODS AND MATERIALS FOR CLEANING UP	Absorb the product onto vermiculite, floor absorbent or other absorbent materials, such as dry-lime, sand, or soda ash. Sweep or scoop into a suitable container for disposal. Ventilate area and wash spill site after material pickup is complete.

## **SECTION 7: HANDLING AND STORAGE**

PRECAUTIONS FOR SAFE HANDLING	Prevent contact with the eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapors. Use with adequate ventilation. Ground and bond all containers and handling equipment. Handle in accordance with good industrial hygiene and safety practice. Take precautionary measures against static discharges. Emptied containers may still be hazardous. Do not cut, drill, grind, weld or perform similar actions on or near empty containers.
CONDITIONS FOR SAFE STORAGE	Store in cool, dry, well-ventilated areas. Keep containers closed. Do not store near extreme heat, open flame or sources of ignition.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

INGREDIENTS	CAS #	%	ACGIH TLV	OSHA PEL
Acrylic Polymer	Proprietary	49.0 – 51.0	<i>None established</i>	<i>None established</i>
2-Butoxyethanol	111-76-2	44.0 – 46.0	20 ppm	50 ppm
2-Propanol	67-63-0	4.0 – 6.0	200 ppm	400 ppm

APPROPRIATE ENGINEERING CONTROLS Showers, eyewash stations and explosion-proof ventilation systems.

### PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE	Chemical splash goggles or face shield.
SKIN	Wear resistant gloves (consult you safety equipment supplier) and impervious protective clothing as appropriate to prevent skin contact.
RESPIRATORY	An appropriate NIOSH approved respirator where exposure limits are exceeded.
HYGIENE MEASURES	Handle in accordance with good industrial hygiene and safety practices. When using, do not eat, drink or smoke. Wash face and hands before breaks and at the end of work. Wash contaminated clothing before re-use.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	Clear liquid	ODOR	Mild, sweet, esteric, ethereal
ODOR THRESHOLD	0.48 ppm	pH	No test data available
MELTING POINT	No test data available	BOILING POINT/RANGE	82 °C (180 °F)
FLASH POINT	53.6 °F (12 °C), Closed Cup	EVAPORATION RATE	3.0 (n-Butyl Acetate)
FLAMMABILITY	Flammable Liquid Class IB		
FLAMMABLE LIMITS	LOWER 1.2 %, <i>by volume of solvent</i>	UPPER	10.8 %, <i>by volume of solvent</i>
VAPOR PRESSURE	5.13 hPa @ 20 °C	VAPOR DENSITY	4.1 (Air = 1)
RELATIVE DENSITY	0.98 – 1.01	SOLUBILITY IN H <sub>2</sub> O	Solvent – Soluble Polymers - Nil
PARTITION COEFFICIENT (n-octanol/water)	<i>Solvent</i> – log P <sub>ow</sub> : 0.05 @ 20 °C	AUTOIGNITION TEMPERATURE	230 - 245 °C 1, 13 hPa
DECOMPOSITION TEMPERATURE	> 250 °C ( <i>Polymer</i> )	VISCOSITY	80 - 200 cps
% VOLATILE	49 – 51 %	SOFTENING POINT	No test data available

## **SECTION 10: STABILITY AND REACTIVITY**

REACTIVITY	This product does not pose a significant reactivity hazard when stored appropriately (see Section 7).
STABILITY	This product is stable when stored appropriately (see Section 7).
CONDITIONS TO AVOID	All ignition sources, heat and open flames.
INCOMPATIBLE PRODUCTS	Strong oxidizers, aldehydes.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon Dioxide, Carbon Monoxide.
POSSIBILITY OF HAZARDOUS REACTIONS	Solvent component may form peroxides in the presence of air.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### SYMPTOMS OF EXPOSURE

ACUTE	Skin or serious eye irritation. Drowsiness or dizziness. Nausea.
DELAYED	Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Headache. Nausea. Unconsciousness.

### ACUTE TOXICITY

INHALATION	Harmful if inhaled and may cause drowsiness or dizziness.		
SKIN	Harmful in contact with skin and causes skin irritation.		
EYES	Causes serious eye irritation.		
INGESTION	Harmful if swallowed.		
INHALATION TOXICITY	LC <sub>50</sub> Rat, 4 hours	2-Butoxyethanol 2-Propanol Polymers	550 ppm 16,000 ppm Not established
DERMAL TOXICITY	LD <sub>50</sub> Rat	2-Butoxyethanol 2-Propanol Polymers	1,250 mg/kg 12,800 mg/kg Not established
SKIN IRRITATION	Draize, Rabbit, 24 hours	2-Butoxyethanol	Irritating to the skin
EYE IRRITATION	Draize, Rabbit, 24 hours	2-Butoxyethanol	Irritating to the eyes
ORAL TOXICITY	LD <sub>50</sub> Rat	2-Butoxyethanol 2-Propanol Polymers	745 mg/kg 5,045 mg/kg Not established
SENSITIZATION	Draize, Guinea pig		Did not cause sensitization

## CHRONIC EFFECTS

### CARCINOGENICITY

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Not classified. Long-term exposure via inhalation of 2-Butoxyethanol at concentrations up to 125 ppm caused an increase in the incidence of liver tumors in male mice and forestomach tumors in female mice. A slight increase in adrenal tumors was observed in female rats. The NTP has determined that 2-Butoxyethanol displays some evidence of carcinogenicity in mice and equivocal evidence of carcinogenicity in female rats.

### MUTAGENIC EFFECTS

None known

### REPRODUCTIVE TOXICITY

None known

### TARGET ORGAN EFFECTS

Central nervous system

## **SECTION 12: ECOLOGICAL INFORMATION**

ECOTOXICITY	Not harmful to aquatic life.		
TOXICITY TO FISH	LC <sub>50</sub> Oncorhynchus mykiss, 96 h	2-Butoxyethanol	1,474 mg/l
	LC <sub>50</sub> Pimephales promelas, 96 h	2-Propanol	9,640 mg/l
		Polymers	Not established
TOXICITY TO DAPHNIA	EC <sub>50</sub> Daphnia magna, 48 h	2-Butoxyethanol	1,800 mg/l
		2-Propanol	> 10,000 mg/l
		Polymers	Not established
TOXICITY TO ALGAE	EC <sub>50</sub> Pseudokirchneriella subcapitata, 72 h	2-Butoxyethanol	911 mg/l
		Polymers	Not established
	EC <sub>50</sub> Desmodesmus subsp., 72 h	2-Propanol	> 2,000 mg/l
PERSISTENCE AND DEGRADABILITY	Readily biodegradable		
BIOACCUMULATIVE POTENTIAL	Log P <sub>ow</sub> = 0.05 Solvent component bioconcentration factor (BCF): 3.16		
MOBILITY IN SOIL	No data available		
OTHER ADVERSE EFFECTS	None known		

## **SECTION 13: DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL** Dispose of in accordance with local, state and federal regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Empty containers may retain some product residues. Vapor from product residues may create a flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been thoroughly cleaned. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

US EPA WASTE NUMBER & DESCRIPTION No information available

## **SECTION 14: TRANSPORT INFORMATION**

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

### **U.S. DOT**

Proper Shipping Name: Resin Solution, *flammable*  
Classification: 3  
UN#: 1866  
Packing Group: II  
Hazard Label: Flammable Liquid

### **ICAO / IATA**

Proper Shipping Name: Resin Solution, *flammable*  
Classification: 3  
UN#: 1866  
Packing Group: II  
Hazard Label: Flammable Liquid

**IMDG**

Proper Shipping Name: Resin Solution, *flammable*  
 Classification: 3  
 UN#: 1866  
 Packing Group: II  
 EmS#: F-E, S-D  
 Hazard Label: Flammable Liquid

**ADR/RID**

Proper Shipping Name: Resin Solution, *flammable*  
 Classification: 3  
 UN#: 1866  
 Packing Group: II  
 Hazard Label: Flammable Liquid

**SECTION 15: REGULATORY INFORMATION**

The components in this product are either listed or exempt from listing due to polymer exemption criteria for the following chemical listing inventories as indicated by an "X":

AICS	Australian Inventory of Chemical Substances	<b>X</b>
DSL	Canadian Domestic Substances List	
ECL	Korean Existing Chemicals List	<b>X</b>
ECN	Taiwan Chemical Substances List	
ELINCS	European List of Notified Chemical Substances	
ENCS	Japanese Existing and New Chemical Substances	
IECSC	Inventory of Existing Chemical Substances in China	<b>X</b>
ISRAEL	Proposed Israel Hazardous Substances List	
NDSL	Canadian Non-Domestic Substances List	<b>X</b>
NZIoC	New Zealand Inventory of Chemicals	
PICCS	Philippines Inventory of Chemicals and Chemical Substances	<b>X</b>
SWISS	Giftelist 1 and Inventory of Notified New Substances	
TSCA	US Toxic Substances Control Act	<b>X</b>

**INTERNATIONAL REGULATIONS**

**EU REGULATION** (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization, *Substances of Very High Concern*: This product does not contain any SVHC listed substances.

**REACH** All components of this product are REACH pre-registered.

**EINECS** All of the components of this product are included on the European Inventory of Existing Commercial Chemical Substances.

**WHMIS CLASSIFICATION B3: Combustible Liquid**

D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects  
 D2B: Toxic Material Causing Other Toxic Effects

**FEDERAL REGULATIONS**

**SARA 313** This product contains a chemical, 2-Butoxyethanol, which is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

111-76-2                      2-Butoxyethanol                      23 – 27%

**SARA Section 311/312 (40 CFR 370) Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

**CERCLA** This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional or state level pertaining to releases of this product.

**CLEAN WATER ACT** This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CLEAN AIR ACT This product does not contain any substances regulated as hazardous air pollutants (HAPS under Section 112 of the Clean Air Act Amendments of 1990. The following chemicals are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40CFR 60.489):

111-76-2	2-Butoxyethanol	44 – 46 %
67-63-0	2-Propanol	4 – 6 %

OTHER FEDERAL None known

#### U.S. STATE REGULATIONS

RIGHT TO KNOW The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in Sections 2 and 15 of this Safety Data Sheet.

CALIFORNIA PROP 65 This product does not contain any substances known to the state of California to cause cancer and/or reproductive toxicity.

### **SECTION 16: OTHER INFORMATION**

DISCLAIMER This product is intended for industrial use only and should be used in accordance with the manufacturer's recommendations. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

DATE OF REVISION December 8, 2015, *replaces the October 23, 2015 version.*

REASON FOR REVISION Revised Appearance property in Section 9.

SDS PREPARED BY Glen Pearson

SDS APPROVED BY Robert Auerbach