

**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® 3N
MFR.'S CODE ID/SYNONYMS	Resiflow® 3N
CAS NUMBER	Mixture (see Sections 3 or 8)
PRODUCT USE	Flow Control Agent for Waterborne Coatings
RESTRICTIONS ON USE	For industrial use only.
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:** *Warning*
**GHS Classification**

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

**GHS Label**

	
<b>Symbols:</b> Exclamation Mark	
<b>Hazard Statements</b> H227: Combustible liquid H302: Harmful if swallowed H312: Harmful in contact with skin H315: Causes skin irritation H319: Causes serious eye irritation H332: Harmful if inhaled H335: May cause respiratory irritation	<b>Precautionary Statements</b> <i>Prevention</i> P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking. 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. P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P321: Specific treatment (see supplemental first aid instructions on this label) P330: Rinse mouth. P332+313: If skin irritation occurs: Get medical advice/attention. P337+313: If eye irritation persists get medical advice/attention.

	<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+235: Store in a well ventilated place. Keep cool.</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**

HAZARDOUS INGREDIENTS	CAS #	%	CLASSIFICATION	H Codes
2-Butoxyethanol	111-76-2	23.0 - 27.0	Flammable Liquids – Category 4 Acute Toxicity (Oral, Dermal, Inhalation) – Category 4 Skin Corrosion/Irritation – Category 2 Serious Eye Damage/Irritation – Category 2A Specific Target Organ Toxicity, Single Exposure (Respiratory Irritation) – Category 3	H227 H302, H312, H332 H315 H319 H335

(See Section 8 for Exposure Limits)

NON-HAZARDOUS INGREDIENTS	CAS #	%
Acrylic Polymer	Proprietary	73.0 - 77.0

**SECTION 4: FIRST-AID MEASURES**

SYMPTOMS OF EXPOSURE

- ACUTE                      Skin or serious eye irritation. Respiratory irritation. Nausea. Drowsiness or dizziness in extreme exposures.
- DELAYED                 Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Headache. Nausea. Unconsciousness.
- INHALATION             Harmful if inhaled. May cause respiratory irritation. 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      Combustible Liquid Class IIIA
- FLAMMABLE LIMITS                      LEL:        1.1 – 1.3 %, by volume of solvent.  
UEL:        10.6 %, 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      Keep container tightly closed and store in a dry, well ventilated area away from extreme heat, open flame or sources of ignition.

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

INGREDIENTS	CAS #	%	ACGIH TLV	OSHA PEL
Acrylic Polymer	Proprietary	73.0 - 77.0	<i>None established</i>	<i>None established</i>
2-Butoxyethanol	111-76-2	23.0 - 27.0	20 ppm	50 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	166 – 173.5 °C
FLASH POINT	144 – 158 °F (62 - 70 °C)	EVAPORATION RATE	0.153 (n-Butyl Acetate)
FLAMMABILITY	Combustible Liquid Class IIIA		
FLAMMABLE LIMITS	LOWER 1.1 – 1.3 %, <i>by volume of solvent</i>	UPPER 10.6 %, <i>by volume of solvent</i>	

VAPOR PRESSURE	0.599 mmHg @ 20 °C	VAPOR DENSITY	0.904 @ 20 °C (Air = 1)
RELATIVE DENSITY	1.04 – 1.08	SOLUBILITY IN H <sub>2</sub> O	<i>Solvent</i> – Soluble <i>Polymers</i> - Nil
PARTITION COEFFICIENT (n-octanol/water)	<i>Solvent</i> – log P <sub>ow</sub> : 0.81 @ 20 °C	AUTOIGNITION TEMPERATURE	230 - 245 °C 1, 13 hPa
DECOMPOSITION TEMPERATURE	124.7 °C ( <i>Solvent</i> ) > 250 °C ( <i>Polymer</i> )	VISCOSITY	1700 – 3700 cps
% VOLATILE	23 – 27%	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.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon Dioxide, Carbon Monoxide.
POSSIBILITY OF HAZARDOUS REACTIONS	Will not occur

### **SECTION 11: TOXICOLOGICAL INFORMATION**

#### SYMPTOMS OF EXPOSURE

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

#### ACUTE TOXICITY

INHALATION	Harmful if inhaled. May cause respiratory irritation.		
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	Glycol Ether EB Polymers	550 ppm Not established
DERMAL TOXICITY	LD <sub>50</sub> Rat	Glycol Ether EB Polymers	1,250 mg/kg Not established
SKIN IRRITATION	Draize, Rabbit, 24 hours	Glycol Ether EB	Irritating to the skin
EYE IRRITATION	Draize, Rabbit, 24 hours	Glycol Ether EB	Irritating to the eyes
ORAL TOXICITY	LD <sub>50</sub> Rat	Glycol Ether EB Polymers	745 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
MUTAGENIC EFFECTS	None known
REPRODUCTIVE TOXICITY	None known
TARGET ORGAN EFFECTS	None known

## **SECTION 12: ECOLOGICAL INFORMATION**

ECOTOXICITY	Not harmful to aquatic life.		
TOXICITY TO FISH	LC <sub>50</sub> Oncorhynchus mykiss, 96 h	Glycol Ether EB Polymers	1,474 mg/l Not established
TOXICITY TO DAPHNIA	EC <sub>50</sub> Daphnia magna, 48 h	Glycol Ether EB Polymers	1,800 mg/l Not established
TOXICITY TO ALGAE	EC <sub>50</sub> Pseudokirchneriella subcapitata, 72 h	Glycol Ether EB Polymers	911 mg/l Not established
PERSISTENCE AND DEGRADABILITY	90.4 %, readily biodegradable		
BIOACCUMULATIVE POTENTIAL	Log P <sub>ow</sub> = 0.83		
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: Combustible liquid, n.o.s. (2-*Butoxyethanol*).

Classification: CBL

UN#: NA1993

Packing Group: III

Hazard Label: Combustible Liquid

### **ICAO / IATA**

*Not regulated as a dangerous good.*

### **IMDG**

*Not regulated as a dangerous good.*

*Special Note:* The flash point for this material is greater than 100 °F (38 °C). Therefore, in accordance with CFR 49 173.150(f) non-bulk containers (<450 L or <119 gallon capacity) of this material may be shipped as non-regulated when transported solely by land, as long as the material is not a hazardous waste.

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

### 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.

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 chemical is listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40CFR 60.489): 111-76-2 2-Butoxyethanol 23 – 27%

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 No substances known to the state of California to cause cancer and/or reproductive toxicity were intentionally added to this product; however, this product may contain unknown trace amounts of 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 August 9, 2018, *replaces the October 11, 2017 version.*

REASON FOR REVISION Updated the Hazards associated with 2-Butoxyethanol throughout based on the latest supplier information.

SDS PREPARED BY Glen Pearson

SDS APPROVED BY Robert Auerbach