

BR® 127 CORROSION INHIBITING PRIMER

Revision Date 02/13/2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name BR® 127 CORROSION INHIBITING PRIMER

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Engineered materials

1.3 Details of the supplier of the safety data sheet**Company**

CYTEC INDUSTRIES INC.
COMPOSITE MATERIALS
504 CARNEGIE CENTER PRINCETON, NJ 08540 USA
Tel: +1-833-970-1163

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

Disclaimer

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture**HCS 2012 (29 CFR 1910.1200)**

Flammable liquids, Category 2	H225: Highly flammable liquid and vapor.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 1A	H350: May cause cancer.
Reproductive toxicity, Category 1B	H360: May damage fertility or the unborn child.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness. (Central nervous system)

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2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

- Danger

Hazard Statements

- H225 Highly flammable liquid and vapor.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H360 May damage fertility or the unborn child.

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/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- 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.
- P363 Wash contaminated clothing before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

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2.3 Other hazards which do not result in classification

- H402: Harmful to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture**Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
2-Butanone	78-93-3	60 - 80
Ethanol, 2-ethoxy-	110-80-5	15 - 20
Epoxy/phenolic resin	*****	3 - 8
Polymeric phenolic epoxy resin	*****	1 - 4
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	7789-06-2	0.5 - 2.5
1H-Imidazole, 2-methyl-	693-98-1	0.1 - 0.4
Formaldehyde	50-00-0	<= 0.06

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1 Description of first-aid measures****In case of inhalation**

- Quickly move the person away from the contaminated area. Make the affected person rest.
- Immediate medical attention is required.
- Show this sheet to the doctor.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- Use appropriate protective equipment when treating a contaminated person.
- Immediate medical attention is required.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Keep eye wide open while rinsing.
- Show this sheet to the doctor.
- Always obtain medical advice, even if there are no symptoms.

In case of ingestion

- Do NOT induce vomiting.
- Immediate medical attention is required.

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- Show this sheet to the doctor.
- Do not give anything to drink.

4.2 Most important symptoms and effects, both acute and delayed

In case of eye contact

Effects

- Eyes splashes can lead to severe cornea destruction.

In case of inhalation

Effects

- Inhalation can lead to local effects in the respiratory tract, from irritation, lung oedema and neurological disorders.

In case of ingestion

Effects

- Ingestion can lead to neurological disorders, digestive tract corrosion, cardiovascular symptoms (heart rhythm disorders), liver (cytolysis) and kidney (tubular necrosis) damage.

Symptoms

- Symptoms will depend on the target organs.
- Inhalation may provoke the following symptoms:
 - Cough
 - Breathing difficulties
 - Irritation
 - Redness
 - Swelling of tissue
- Ingestion may provoke the following symptoms:
 - Nausea
 - Diarrhea
 - Abdominal pain
 - Drowsiness
 - Dizziness
 - Headache
 - Unconsciousness
 - May cause respiratory tract irritation.
 - allergic rhinitis
 - Severe allergic skin reactions, bronchospasm and anaphylactic shock
 - Itching
 - Dermatitis
 - Causes skin burns.
 - Lachrymation
 - Conjunctivitis
 - Causes eye burns.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- Read instructions before using.
- PVP/IPA can also be used preferably in case of large exposure alternatively.
- In case of limited exposure, PEG 3550 could be used.

SECTION 5: Firefighting measures

Flash point

28 °F (-2 °C)
Seta closed cup

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<u>Autoignition temperature</u>	961 °F (516 °C)
<u>Flammability / Explosive limit</u>	Lower flammability/explosion limit : 1.80 %(V) Upper flammability/explosion limit : 10.00 %(V)

5.1 Extinguishing media**Suitable extinguishing media**

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Under fire conditions:
- Will burn
- On combustion, toxic gases are released.

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

- In the event of fire, wear self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- For further information refer to section 8 "Exposure controls / personal protection."

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Contain the spilled material by diking.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.
- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

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6.3 Methods and materials for containment and cleaning up

- Remove all sources of ignition.
- Stop leak if safe to do so.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Wash nonrecoverable remainder with large amounts of water.
- Soak up with inert absorbent material and dispose of as hazardous waste.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- This product should be stored and used in a well-ventilated area away from naked flames, sparks and other sources of ignition.
- Containers must be bonded and grounded when pouring or transferring material.
- This material contains a flammable or combustible liquid and vapor.
- Provide good ventilation of working area (local exhaust ventilation if necessary).

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Observe the general rules of industrial fire protection.
- 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. In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.
- Keep away from sources of ignition - No smoking.

Requirements for storage rooms and vessels

Recommended storage temperature: < -0.0 °F (< -17.8 °C)

- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

7.3 Specific end use(s)

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- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters**Components with workplace occupational exposure limits**

Components	Value type	Value	Basis
2-Butanone	TWA	200 ppm 590 mg/m3	National Institute for Occupational Safety and Health
2-Butanone	ST	300 ppm 885 mg/m3	National Institute for Occupational Safety and Health
2-Butanone	TWA	200 ppm	American Conference of Governmental Industrial Hygienists
2-Butanone	STEL	300 ppm	American Conference of Governmental Industrial Hygienists
2-Butanone	TWA	200 ppm 590 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.	
2-Butanone	PEL	200 ppm 590 mg/m3	
2-Butanone	STEL	300 ppm 885 mg/m3	
Ethanol, 2-ethoxy-	TWA	5 ppm	American Conference of Governmental Industrial Hygienists
		Danger of cutaneous absorption	
Ethanol, 2-ethoxy-	TWA	0.5 ppm 1.8 mg/m3	National Institute for Occupational Safety and Health
		Potential for dermal absorption	
Ethanol, 2-ethoxy-	TWA	200 ppm 740 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
		Skin designation	
Ethanol, 2-ethoxy-	PEL	5 ppm 18 mg/m3	
		Skin	

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Chromic acid (H ₂ CrO ₄), strontium salt (1:1)			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	CEIL	1 mg/10m ³	Occupational Safety and Health Administration - Table Z-2
	Expressed as :CrO ₃		
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	PEL	0.005 mg/m ³	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
	OSHA specifically regulated carcinogen Expressed as :chromium		
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	TWA	0.0002 mg/m ³	National Institute for Occupational Safety and Health
	Potential Occupational Carcinogen Expressed as :chromium		
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	PEL	0.0005 mg/m ³	
	Expressed as :chromium		

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
2-Butanone	78-93-3	3000 parts per million
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	7789-06-2	15 mg/m ³
Formaldehyde	50-00-0	20 parts per million

Biological Exposure Indices

Components	Value type	Value	Basis
2-Butanone	BEI	2 mg/l methyl ethyl ketone Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
Ethanol, 2-ethoxy-	BEI	100 mg/g Creatinine 2-Ethoxyacetic acid Urine End of shift at end of workweek	American Conference of Governmental Industrial Hygienists

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8.2 Exposure controls**Control measures****Engineering measures**

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures**Respiratory protection**

- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.
- Respirator with a vapor filter (EN 141)
- Respirator with a full face mask.
- Use the indicated respiratory protection if the occupational exposure limit is exceeded.

Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Suitable material

- Nitrile or fluorinated rubber gloves.

Eye protection

- Chemical resistant goggles must be worn.
- Tightly fitting safety goggles

Skin and body protection

- Impervious clothing
- Full protective suit
- Change working clothes after each work-shift.
- Contaminated work clothing should not be allowed out of the workplace.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Keep away from food and drink.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties**Appearance****Form:** Volatile.**Physical state:** liquid**Color:** blue green

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<u>Odor</u>	moderate sweet
<u>Odor Threshold</u>	No data available
<u>Molecular weight</u>	Mixture
<u>pH</u>	No data available
<u>Melting point/freezing point</u>	<u>Melting point/range:</u> Not applicable
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range:</u> 176 °F (80 °C)
<u>Flash point</u>	28 °F (-2 °C) Seta closed cup
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	<u>Lower flammability/explosion limit:</u> Type: Lower explosion limit 1.80 %(V) <u>Upper flammability/explosion limit:</u> Type: Upper flammability limit 10.00 %(V)
<u>Autoignition temperature</u>	961 °F (516 °C)
<u>Vapor pressure</u>	86 mmHg (114.66 hPa)
<u>Vapor density</u>	2.88
<u>Density</u>	0.88 g/cm ³
<u>Relative density</u>	No data available
<u>Solubility</u>	<u>Water solubility:</u> slightly soluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>Viscosity</u>	No data available
<u>Explosive properties</u>	No data available
<u>Oxidizing properties</u>	Not considered as oxidizing.
9.2 Other information	
<u>Corrosion of Metals</u>	Not corrosive to metals.
<u>Peroxides</u>	The substance or mixture is not classified as organic peroxide.

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Non Volatiles by Weight 100 %**SECTION 10: Stability and reactivity****10.1 Reactivity**

- no data available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- **polymerization**
Hazardous polymerization may occur.

10.4 Conditions to avoid

- Polymerization occurs when exposed to white light, ultraviolet light or heat.

10.5 Incompatible materials

- Strong acids
- Bases
- Amines

10.6 Hazardous decomposition products

- Carbon dioxide (CO₂)
- Carbon monoxide
- Chromium oxides
- Hydrogen chloride
- Nitrogen oxides (NO_x)

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

The product has a low acute toxicity
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute inhalation toxicity

This product is classified as acute toxicity category 4
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute dermal toxicity

Not classified as hazardous for acute dermal toxicity according to GHS.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute toxicity (other routes of administration)

Not applicable

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Skin corrosion/irritation

Mild skin irritation
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Serious eye damage/eye irritation

Irritating to eyes.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Respiratory or skin sensitization

2-Butanone

Buehler Test - Guinea pig
Does not cause skin sensitization.
Method: OECD Test Guideline 406
Unpublished reports

Ethanol, 2-ethoxy-

Maximization Test - Guinea pig
Responding animals in GPMT < 30%
Not classified as sensitising by skin contact according to GHS criteria
Method: OECD Test Guideline 406
Unpublished reports

Epoxy/phenolic resin

Local lymph node assay - Mouse
Classified as a skin sensitizer sub-category 1B according to GHS criteria
Method: OECD Test Guideline 429
Unpublished reports

Chromic acid (H₂CrO₄), strontium salt (1:1)

By analogy

Classified as a skin sensitizer sub-category 1B according to GHS criteria
Method: according to a standardized method

Formaldehyde

Local lymph node assay - Mouse
EC 3 value ≤ 2 %
Method: OECD Test Guideline 429
Published data

Mutagenicity**Genotoxicity in vitro**

2-Butanone

Ames test
with and without metabolic activation

negative
Method: OECD Test Guideline 471
Unpublished reports

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	<p>Chromosome aberration test in vitro Strain: Rodent cell line</p> <p>negative Method: OECD Test Guideline 473 Unpublished reports</p> <p>Gene mutation assays in mammalian cells. Strain: mouse lymphoma cells with and without metabolic activation</p> <p>negative Method: OECD Test Guideline 476 Unpublished reports</p>
Ethanol, 2-ethoxy-	<p>reverse mutation assay Strain: Salmonella typhimurium with and without metabolic activation</p> <p>negative Method: OECD Test Guideline 471 Published data Unpublished reports</p> <p>Chromosome aberration test in vitro Strain: Chinese hamster ovary cells with metabolic activation</p> <p>negative Method: OECD Test Guideline 473 Published data Unpublished reports</p> <p>Gene mutation assays in mammalian cells. Strain: Chinese hamster ovary cells with and without metabolic activation</p> <p>negative Method: OECD Test Guideline 476 Unpublished reports</p>
Epoxy/phenolic resin	<p>Ames test Strain: Salmonella typhimurium with and without metabolic activation</p> <p>positive Published data</p> <p>Gene mutation assays in mammalian cells. Strain: Mouse</p> <p>positive Published data</p>
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	By analogy

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	<p>Ames test with and without metabolic activation</p> <p>positive Method: according to a standardized method Published data</p> <p>In vitro mammalian cell gene mutation test Strain: Syrian Hamster Embryo (SHE) cells without metabolic activation</p> <p>positive Method: Regulation (EC) No. 440/2008, Annex, B.21 Published data</p> <p>sister chromatid exchange assay Strain: Chinese hamster ovary cells without metabolic activation</p> <p>positive Method: according to a standardized method Published data</p>
Formaldehyde	<p>Ames test without metabolic activation</p> <p>positive Method: OECD Test Guideline 471 Published data</p> <p>Chromosome aberration test in vitro Strain: V79 without metabolic activation</p> <p>positive Method: OECD Test Guideline 479 Published data</p> <p>Gene mutation assays in mammalian cells. Strain: mouse lymphoma cells without metabolic activation</p> <p>positive Method: OECD Test Guideline 476 Published data</p>
Genotoxicity in vivo 2-Butanone	<p>In vivo micronucleus test - Mouse male and female Intraperitoneal injection Method: OECD Test Guideline 474</p> <p>negative Unpublished reports</p>

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Ethanol, 2-ethoxy-	In vivo micronucleus test - Mouse male and female Intraperitoneal injection Method: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) negative Unpublished reports
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	By analogy In vivo tests showed mutagenic effects Published data
Formaldehyde	Conflicting results have been seen in different studies.

Carcinogenicity

Epoxy/phenolic resin	Rat Oral Method: OECD Test Guideline 453 negative Unpublished reports Rat Dermal Method: OECD Test Guideline 453 negative Unpublished reports
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	Rat , male and female Method: according to a standardized method carcinogenic effects IARC: Chromium (VI) compounds are carcinogenic in humans (Group 1) Published data
Formaldehyde	Rat , male Inhalation Exposure duration: 28 Months LOAEL: 10ppm Rat , male Inhalation Exposure duration: 28 Months NOAEL: 1ppm Published data Possible human carcinogen

Components	CAS-No.	Rating	Basis
1H-Imidazole, 2-methyl-	693-98-1	Group 2B: Possibly carcinogenic to humans	IARC
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	7789-06-2	Listed	OSHA

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP

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Toxicity for reproduction and development**Toxicity to reproduction / fertility**

2-Butanone

OECD Test Guideline 416

By analogy, Fertility and developmental toxicity tests did not reveal any effect on reproduction., No embryotoxic effects have been observed in animal tests.,
Published data

Ethanol, 2-ethoxy-

One-Generation Reproduction Toxicity Study - Dog, male and female, Oral
General Toxicity Parent NOAEL: 93 mg/kg bw/day
Fertility NOAEL: 93 mg/kg

One-Generation Reproduction Toxicity Study - Rat, male and female, Oral
General Toxicity Parent NOAEL: 93 mg/kg bw/day
Fertility NOAEL: 93 mg/kg

Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments, Published data

Epoxy/phenolic resin

Two-generation study - Rat, Oral
General Toxicity Parent NOAEL: 540 mg/kg bw/day
OECD Test Guideline 416
Unpublished reports

Developmental Toxicity/Teratogenicity

2-Butanone

Rat, female, Inhalation
General Toxicity Maternal NOAEL: 2.95 mg/l
Teratogenicity NOAEL:2.95mg/l
Method: OECD Test Guideline 414
Unpublished reports

Ethanol, 2-ethoxy-

Rat, male and female, Inhalation
General Toxicity Maternal NOAEL: 50 ppm
Developmental Toxicity NOAEL: 10 ppm

Rat, male and female, Oral
General Toxicity Maternal NOAEL: 93 mg/kg bw/day
Teratogenicity NOAEL:46.5mg/kg bw/day
Developmental Toxicity NOAEL: 23 mg/kg bw/day

clinical report, Published data

Epoxy/phenolic resin

Rabbit, female
Teratogenicity NOAEL F1:180mg/kg bw/day
Method: OECD Test Guideline 414
Unpublished reports

Formaldehyde

Rat, Inhalation
General Toxicity Maternal NOAEL: 5 ppm
Teratogenicity NOAEL:10ppm
Method: OECD Test Guideline 414
Published data

STOT

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STOT-single exposure

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects according to GHS criteria.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

STOT-repeated exposure

The substance or mixture is not considered to cause damage to organs through prolonged or repeated exposure.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

The product itself has not been tested.

Experience with human exposure**Experience with human exposure : Inhalation**

No data is available on the product itself.

Experience with human exposure : Skin contact

No data is available on the product itself.

Experience with human exposure : Eye contact

No data is available on the product itself.

Experience with human exposure : Ingestion

No data is available on the product itself.

CMR effects**Carcinogenicity**

Chromic acid (H₂CrO₄), strontium salt (1:1) Classified as carcinogen category 1A according to GHS criteria
Formaldehyde Possible human carcinogen

Mutagenicity

Ethanol, 2-ethoxy- Not classified as mutagen according to GHS criteria.
Epoxy/phenolic resin Classification not possible from current data

Chromic acid (H₂CrO₄), strontium salt (1:1) Classified as mutagen category 2 according to GHS criteria.

Formaldehyde In vitro tests showed mutagenic effects

Teratogenicity

Ethanol, 2-ethoxy- Classified as toxic for the reproduction in Category 1B (development) according to GHS criteria

Chromic acid (H₂CrO₄), strontium salt (1:1) Suspected of damaging the unborn child.

Reproductive toxicity

Ethanol, 2-ethoxy- Classified as toxic for the reproduction in Category 1B (fertility) according to GHS criteria

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Chromic acid (H₂CrO₄), strontium salt (1:1)
 Formaldehyde

Suspected of damaging fertility.
 No toxicity to reproduction

Aspiration toxicity

No aspiration toxicity classification, According to the available data on the components, According to the classification criteria for mixtures.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment**

Acute toxicity to fish The product itself has not been tested.

Acute toxicity to daphnia and other aquatic invertebrates The product itself has not been tested.

Toxicity to aquatic plants The product itself has not been tested.

Toxicity to microorganisms The product itself has not been tested.

Chronic toxicity to fish The product itself has not been tested.

Chronic toxicity to daphnia and other aquatic invertebrates The product itself has not been tested.

Sediment compartment

Toxicity to benthic organisms The product itself has not been tested.

Terrestrial Compartment

Toxicity to soil dwelling organisms The product itself has not been tested.

Toxicity to terrestrial plants The product itself has not been tested.

Toxicity to above ground organisms The product itself has not been tested.

M-Factor

Chromic acid (H₂CrO₄), strontium salt (1:1)
 Acute aquatic toxicity = 1
 Chronic aquatic toxicity = 1
 (according to the Globally Harmonized System (GHS))

12.2 Persistence and degradability**Abiotic degradation**

Stability in water Conclusion is not possible for a mixture as a whole.

Photodegradation Conclusion is not possible for a mixture as a whole.

Other Physicochemical reactions Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability Conclusion is not possible for a mixture as a whole.

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Biodegradation

Biodegradability	As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).
Ratio BOD / COD	Conclusion is not possible for a mixture as a whole.
Ratio BOD / ThOD	Conclusion is not possible for a mixture as a whole.
Biochemical Oxygen Demand (BOD)	Conclusion is not possible for a mixture as a whole.
Dissolved organic carbon (DOC)	Conclusion is not possible for a mixture as a whole.
Chemical Oxygen Demand (COD)	Conclusion is not possible for a mixture as a whole.
Adsorbed organic bound halogens (AOX)	Conclusion is not possible for a mixture as a whole.

Degradability assessment

Conclusion is not possible due to incomplete or heterogeneous data on the components
 Unpublished reports
 Published data

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	Conclusion is not possible for a mixture as a whole.
Bioconcentration factor (BCF)	As bioaccumulation is not relevant for mixtures, all the components of the mixture were assessed individually. Conclusion is not possible due to incomplete or heterogeneous data on the components Unpublished reports Published data

12.4 Mobility in soil

Adsorption potential (Koc)	Conclusion is not possible for a mixture as a whole.
Known distribution to environmental compartments	Conclusion is not possible due to incomplete or heterogeneous data on the components

12.5 Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
 This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).
 Remark(s): According to the available data on the components

12.6 Other adverse effects**Ecotoxicity assessment**

Short-term (acute) aquatic hazard	Harmful to aquatic life. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
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Long-term (chronic) aquatic hazard Harmful to aquatic life with long lasting effects.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUIDS, N.O.S. (Butanone, 2-Ethoxyethanol)
14.3 Transport hazard class	3
Label(s)	3,
14.4 Packing group	II
Packing group	128
ERG No	
14.5 Environmental hazards	NO
Marine pollutant	

14.6 Special precautions for user

This product contains one or more ingredients identified as a hazardous substance in Appendix A of 49 CFR 172.101.

Reportable quantities : RQ substance: Strontium chromate
RQ limit for substance: 10 lb
RQ limit for product: 635 lb

RQ substance: 2-Ethoxyethanol
RQ limit for substance: 1,000 lb
RQ limit for product: 5,614 lb

TDG

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Butanone, 2-Ethoxyethanol)

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14.3 Transport hazard class 3
 Label(s) 3

14.4 Packing group
 Packing group II
 ERG No 128

14.5 Environmental hazards NO
Marine pollutant

NOM

14.1 UN number UN 1993

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S. (Butanone, 2-Ethoxyethanol)

14.3 Transport hazard class 3
 Label(s) 3

14.4 Packing group
 Packing group II
 ERG No 128

14.5 Environmental hazards NO
Marine pollutant

IMDG

14.1 UN number UN 1993

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S. (Butanone, 2-Ethoxyethanol)
 IMDG Code segregation group Not Relevant

14.3 Transport hazard class 3
 Label(s) 3

14.4 Packing group
 Packing group II

14.5 Environmental hazards NO
Marine pollutant

14.6 Special precautions for user
 EmS F-E , S-E

For personal protection see section 8.

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IATA

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Butanone, 2-Ethoxyethanol)
14.3 Transport hazard class	3
Label(s):	3
14.4 Packing group	II
Packing group	
Packing instruction (cargo aircraft)	364
Max net qty / pkg	60.00 L
Packing instruction (passenger aircraft)	353
Max net qty / pkg	5.00 L
14.5 Environmental hazards	NO
14.6 Special precautions for user	
For personal protection see section 8.	

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- One or more components not listed on inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions

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of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations**US. EPA EPCRA SARA Title III****SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Flammable (gases, aerosols, liquids, or solids)	Yes
Serious eye damage or eye irritation	Yes
Respiratory or skin sensitization	Yes
Germ cell mutagenicity	Yes
Carcinogenicity	Yes
Reproductive toxicity	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Acute toxicity (any route of exposure)	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

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

Components	CAS-No.	Concentration
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	7789-06-2	0.5- 2.5%
Chromic acid (H ₂ Cr ₂ O ₇)	13530-68-2	0.0321 %

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Formaldehyde	50-00-0	100 lb

Calculated RQ exceeds reasonably attainable upper limit.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Formaldehyde	50-00-0	100 lb

Calculated RQ exceeds reasonably attainable upper limit.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Components	CAS-No.	Reportable quantity
Chromic acid (H ₂ CrO ₄), strontium salt (1:1)	7789-06-2	10 lb

TSCA Lists**US. TSCA Section 12(b) Export Notification (40 CFR 707)**

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Components	CAS-No.
Ethanol, 2-ethoxy-	110-80-5

15.3 State Regulations**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product is not sold or intended to be sold as a "consumer product" as defined under California's Proposition 65 statute and regulations. If you require information, please contact your local sales representative.

SECTION 16: Other information**NFPA (National Fire Protection Association) - Classification**

Health	2 moderate
Flammability	3 serious
Instability or Reactivity	0 minimal

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

- CEIL	Acceptable ceiling concentration
- PEL	Permissible exposure limit
- ST	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- STEL	Short-term exposure limit
- TWA	8-hour, time-weighted average
- ACGIH	American Conference of Governmental Industrial Hygienists
- OSHA	Occupational Safety and Health Administration
- NTP	National Toxicology Program
- IARC	International Agency for Research on Cancer
- NIOSH	National Institute for Occupational Safety and Health
- ADR:	European Agreement on International Carriage of Dangerous Goods by Road.
- ADN:	European Agreement on the International Carriage of Dangerous Goods by Inland
Waterways.	
- RID:	European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA:	International Air Transport Association.
- ICAO-TI:	Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG:	International Maritime Dangerous Goods.
- TWA:	Time weighted average
- ATE:	Estimated value of acute toxicity
- EC:	European Community number
- CAS:	Chemical Abstracts Service.
- LD50:	Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50:	Substance concentration causing 50% (half) death in the test animals group.
- EC50:	Effective Concentration of the substance causing the maximum of 50%.
- PBT:	Persistent, Bioaccumulative and Toxic substance.
- vPvB:	Very Persistent and Very Bioaccumulative.
- SEA:	Classification, labeling, packaging regulation
- DNEL:	Derived No Effect Level
- PNEC:	Predicted No Effect Concentration
- BHOT:	Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.