

CYASORB CYNERGY SOLUTIONS® L143-50X STABILIZER

Revision Date 12/19/2023

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

- Trade name CYASORB CYNERGY SOLUTIONS® L143-50X STABILIZER

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

- Plastic additive

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

CYTEC INDUSTRIES INC.
504 CARNEGIE CENTER
PRINCETON, NJ 08540 USA

Local contact

+800-438-5615; +888-298-3272

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

Disclaimer

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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 3	H226: Flammable liquid and vapor.
Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1B	H350: May cause cancer.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation. (Respiratory system)
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.

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2.2 Label elements

HCS 2012 (29 CFR 1910.1200)**Pictogram****Signal Word**

- Danger

Hazard Statements

- H226 Flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H350 May cause cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary StatementsPrevention

- 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.
- P260 Do not breathe mist or vapors.
- 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

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- 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 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P331 Do NOT induce vomiting.
- P333 + P313 If skin irritation or rash occurs: 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 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

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

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.
- H411: Toxic 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

- Chemical nature Substituted amine

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Benzene, dimethyl-	1330-20-7	40 - 80
Benzene, ethyl-	100-41-4	< 20
Hindered amine	*****	10 - 15
Benzene, (1-methylethyl)-	98-82-8	0.1 - 0.75
Benzene, methyl-	108-88-3	0.1 - 0.5
2-Pentanone, 4-methyl-	108-10-1	0.1 - 0.5
Cyclic amino alcohol	*****	< 0.25

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.
- Be prepared to provide first aid or medical support if necessary.

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.
- Always obtain medical attention.
- 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.
- Be prepared to provide first aid or medical support if necessary.

In case of ingestion

- Do NOT induce vomiting.
- Immediate medical attention is required.
- Show this sheet to the doctor.
- Do not give anything to drink.
- Be prepared to provide first aid or medical support if necessary.

4.2 Most important symptoms and effects, both acute and delayed**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
 - Asphyxia
 - Unconsciousness
 - Bloody vomiting
 - 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.
 - Suffocation

Effects

- Effects on health may appear after exposure.
- Effects on health may appear after prolonged or repeated exposure.
- The effects will depend on target organs.
- May be fatal if swallowed and enters airways.
- May cause cancer.
- Chronic exposure is suspected of causing effects on fertility or on the unborn child on basis of animal data. Effects on human have not been proven.
- Chronic exposure may cause allergic dermatitis.
- Exposure may cause allergic rhinitis, conjunctivitis, asthma or shock.
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
- In case of inhalation, irritation/corrosion of the respiratory tract.
- Risk of respiratory disorder
 - bronchitis
 - Nose bleeding
 - Chemical pneumonitis
 - pulmonary edema
- May cause irreversible skin damage.
- Chronic exposure may cause dermatitis.
- May cause irreversible eye damage.
- Loss of the eye

4.3 Indication of any immediate medical attention and special treatment needed

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Notes to physician

- Be aware to maintain life support if necessary.
- Take victim immediately to hospital.
- Immediate medical attention is required.
- Consult with an ophthalmologist immediately in all cases.
- Burns must be treated by a physician.
- Treat symptomatically.
- Contact a poison control center.
- Keep under medical supervision for at least 48 hours.
- Contact the occupational physician in case of exposure.

SECTION 5: Firefighting measures

Flash point 85.1 °F (29.5 °C)
Method: ASTM D 93

Autoignition temperature No data available

Flammability / Explosive limit No data available

5.1 Extinguishing media**Suitable extinguishing media**

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

Unsuitable extinguishing media

- Water spray jet
- 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.

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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, wear a two piece PVC suit with hood or PVC overalls with hood.

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

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**

- Containers must be bonded and grounded when pouring or transferring material.
- This material contains a flammable or combustible liquid and vapor.
- Do not release to water.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Avoid high temperatures.
- Avoid splashes.
- Wear personal protective equipment.
- For personal protection see section 8.

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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.
- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer

Requirements for storage rooms and vessels**Storage period:** 12 - 24 Months**Recommended storage temperature:** 32 - 95 °F (0 - 35 °C)

- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from sources of ignition - No smoking.
- Normal measures for preventive fire protection.
- Mixture may charge electrostatically: always use grounding leads when transferring from one container to another.
- To maintain product quality, do not store in heat or direct sunlight.
- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

7.3 Specific end use(s)

- 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
Benzene, dimethyl-	TWA	100 ppm 435 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

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Benzene, dimethyl-	TWA	20 ppm	American Conference of Governmental Industrial Hygienists
Benzene, ethyl-	TWA	20 ppm	American Conference of Governmental Industrial Hygienists
Benzene, ethyl-	TWA	100 ppm 435 mg/m3	National Institute for Occupational Safety and Health
Benzene, ethyl-	ST	125 ppm 545 mg/m3	National Institute for Occupational Safety and Health
Benzene, ethyl-	TWA	100 ppm 435 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Benzene, (1-methylethyl)-	TWA	50 ppm 245 mg/m3	National Institute for Occupational Safety and Health
	Potential for dermal absorption		
Benzene, (1-methylethyl)-	TWA	5 ppm	American Conference of Governmental Industrial Hygienists
Benzene, (1-methylethyl)-	TWA	50 ppm 245 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	Skin designation		
Benzene, methyl-	TWA	100 ppm 375 mg/m3	National Institute for Occupational Safety and Health
Benzene, methyl-	ST	150 ppm 560 mg/m3	National Institute for Occupational Safety and Health
Benzene, methyl-	TWA	20 ppm	American Conference of Governmental Industrial Hygienists
Benzene, methyl-	TWA	200 ppm	Occupational Safety and Health Administration - Table Z-2
Benzene, methyl-	CEIL	300 ppm	Occupational Safety and Health Administration - Table Z-2
Benzene, methyl-	Peak	500 ppm	Occupational Safety and Health Administration - Table Z-2
	Category short time exposure : 10 minutes		
Benzene, methyl-			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
2-Pentanone, 4-methyl-	TWA	50 ppm 205 mg/m3	National Institute for Occupational Safety and Health

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2-Pentanone, 4-methyl-	ST	75 ppm 300 mg/m3	National Institute for Occupational Safety and Health
2-Pentanone, 4-methyl-	TWA	20 ppm	American Conference of Governmental Industrial Hygienists
2-Pentanone, 4-methyl-	STEL	75 ppm	American Conference of Governmental Industrial Hygienists
2-Pentanone, 4-methyl-	TWA	100 ppm 410 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Benzene, dimethyl-	1330-20-7	900 parts per million
Benzene, ethyl-	100-41-4	800 parts per million
Benzene, (1-methylethyl)-	98-82-8	900 parts per million
Benzene, methyl-	108-88-3	500 parts per million
2-Pentanone, 4-methyl-	108-10-1	500 parts per million

Biological Exposure Indices

Components	Value type	Value	Basis
Benzene, dimethyl-	BEI	1.5 g/g creatinine Methylhippuric acids Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
See notice of Intended Changes (NIC) Enclosed adopted values or notations are those for which changes are proposed in the NIC.			
Benzene, ethyl-	BEI	0.15 g/g creatinine Sum of mandelic acid and phenyl glyoxylic acid Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
	Nonspecific		

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Benzene, methyl-	BEI	0.02 mg/l Toluene In blood Prior to last shift of workweek	American Conference of Governmental Industrial Hygienists
Benzene, methyl-	BEI	0.03 mg/l Toluene Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
Benzene, methyl-	BEI	0.3 mg/g creatinine o-Cresol Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
	Background With hydrolyses		
2-Pentanone, 4-methyl-	BEI	1 mg/l methyl isobutyl ketone Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists

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.

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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

<u>Physical state</u>	liquid
<u>Color</u>	yellow-orange
<u>Odor</u>	xylene
<u>Odor Threshold</u>	No data available
<u>Melting point/freezing point</u>	<u>Melting point/range:</u> < 32 °F (0 °C) <u>Freezing point:</u> <= -54 °F (-48 °C)
<u>Initial boiling point and boiling range</u>	No data available
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	No data available
<u>Flash point</u>	85.1 °F (29.5 °C) Method: ASTM D 93
<u>Autoignition temperature</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>pH</u>	substance/mixture is non-soluble (in water)
<u>Viscosity</u>	<u>Viscosity, kinematic</u> : Cannot be measured at 40°C due to Flash point.
<u>Solubility</u>	No data available

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<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Vapor pressure</u>	No data available
<u>Density</u>	0.92 g/cm3 (68 °F (20 °C))
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	No data available
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available

9.2 Other information

<u>Oxidizing properties</u>	Not considered as oxidizing.
<u>Peroxides</u>	The substance or mixture is not classified as organic peroxide.
<u>Corrosion of Metals</u>	Not corrosive to metals.
<u>Molecular weight</u>	Proprietary Ingredient

SECTION 10: Stability and reactivity**10.1 Reactivity**

- Stable

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

- Keep away from heat and sources of ignition.
- Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Strong acids
- Aluminum
- Oxidizing agents

10.6 Hazardous decomposition products**Hazardous decomposition products**

- Carbon oxides
- Nitrogen oxides (NOx)
- Ammonia

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

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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

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 dermal 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 toxicity (other routes of administration)

Not applicable

Skin corrosion/irritation

Irritating to skin.
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

Risk of serious damage 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

Benzene, dimethyl-

Maximization Test - Humans
Does not cause skin sensitization.
The substance or mixture is not considered to be sensitizing by skin contact.
Expert judgment
Patch test on human volunteers did not demonstrate sensitization properties.

Benzene, ethyl-

Repeated Insult Patch Test - Humans
Dermal
Does not cause skin sensitization.
Not classified as sensitising by skin contact according to GHS criteria
Patch test on human volunteers did not demonstrate sensitization properties.
Published data

Hindered amine

Maximization Test - Guinea pig
≥ 30 % responding at > 1 % intradermal induction dose
Method: OECD Test Guideline 406
Unpublished reports

Benzene, (1-methylethyl)-

Maximization Test - Guinea pig
Responding animals in GPMT < 30%
Method: OECD Test Guideline 406
Unpublished reports

Benzene, methyl-

Maximization Test - Guinea pig
Does not cause skin sensitization.
Unpublished reports

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2-Pentanone, 4-methyl-

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

Cyclic amino alcohol

Maximization Test - Guinea pig
≥ 60 % responding at > 0,1 % to ≤ 1 % intradermal induction dose
Method: OECD Test Guideline 406
Unpublished reports

Mutagenicity**Genotoxicity in vitro**

Product is not considered to be genotoxic
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Genotoxicity in vivo

Product is not considered to be genotoxic
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Carcinogenicity

Benzene, dimethyl-

Rat , male and female
Oral
Exposure duration: 103 Weeks
NOAEL: > 500mg/kg bw/day
Method: Directive 67/548/EEC, Annex V, B.32.
Animal testing did not show any carcinogenic effects.
Published data

Benzene, ethyl-

Rat , male and female
Inhalation
Exposure duration: 104 Weeks
NOAEL: 0.325mg/kg bw/day
Target Organs: Kidney
Method: according to a standardized method
Published data

Rat , male and female
Inhalation
Exposure duration: 104 Weeks
LOAEL: 1.084mg/kg bw/day
Target Organs: Kidney
Method: according to a standardized method
Published data

Mouse , male and female
Inhalation
Exposure duration: 103 Weeks
NOAEC: 1.1mg/l
Method: OECD Test Guideline 453
Published data

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Benzene, (1-methylethyl)-

Mouse , male and female
inhalation (gas)
Exposure duration: 105 Weeks
Target Organs: Lungs
Method: OECD Test Guideline 451
Tumors were noticed after prolonged inhalation toxicity testing on mice.
Published data

Rat , male and female
inhalation (gas)
Exposure duration: 105 Weeks
Target Organs: Kidney, Nose
Method: OECD Test Guideline 451
Tumors were noticed after prolonged inhalation toxicity testing on rats.
Published data

Benzene, methyl-

Rat
inhalation (vapor)
Method: according to a standardized method
No carcinogenic effects have been observed
Unpublished reports
Published data

2-Pentanone, 4-methyl-

Rat , male and female
inhalation (vapor)
Exposure time: two-year
NOAEC: 1,840mg/m³
Target Organs: Kidney
Method: OECD Test Guideline 451
Expert judgment and weight of evidence determination.
Not relevant for Humans
Published data

Components	CAS-No.	Rating	Basis
Benzene, (1-methylethyl)-	98-82-8	Reasonably anticipated to be a human carcinogen	NTP
Benzene, ethyl-	100-41-4	Group 2B: Possibly carcinogenic to humans	IARC
Benzene, (1-methylethyl)-	98-82-8	Group 2B: Possibly carcinogenic to humans	IARC
2-Pentanone, 4-methyl-	108-10-1	Group 2B: Possibly carcinogenic to humans	IARC

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

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

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Benzene, dimethyl-	One-Generation Reproduction Toxicity Study - Rat, male and female, Inhalation General Toxicity Parent NOAEC: > 500 ppm Fertility NOAEC Parent: > 500 ppm General Toxicity F1 NOAEC: > 500 ppm Fertility NOAEC F1: > 500 ppm No effect observed on development, no impairment of fertility has been observed, Published data
Benzene, ethyl-	Rat, male and female, Inhalation General Toxicity Parent NOAEC: 500 ppm General Toxicity F1 NOAEC: 500 ppm General Toxicity F2 NOAEC: 500 ppm Fertility NOAEC Mating/Fertility: 500 ppm Developmental Toxicity NOAEC F1: 500 ppm OECD Test Guideline 416 no impairment of fertility has been observed, Unpublished reports
Hindered amine	Rat, male and female, Oral General Toxicity Parent NOAEL: 250 mg/kg bw/day General Toxicity F1 NOAEL: 250 mg/kg bw/day Fertility NOAEL F1: 250 mg/kg bw/day OECD Test Guideline 416 Highest dose tested, no impairment of fertility has been observed, Unpublished reports
Benzene, (1-methylethyl)-	Toxicity for repeated doses. - Rat, male, inhalation (vapor) General Toxicity Parent NOAEL Parent P1: $\geq 1,200$ ppm according to a standardized method no impairment of fertility has been observed, Published data
Benzene, methyl-	Rat, inhalation (vapor) General Toxicity Parent NOAEL: 7,500 mg/m³ General Toxicity F1 NOAEL: 1,875 mg/m³ General Toxicity F2 NOAEL: 1,875 mg/m³ OECD Test Guideline 416 Published data
2-Pentanone, 4-methyl-	Two-generation study - Rat, male and female, inhalation (vapor) General Toxicity Parent NOAEC: 8,178 mg/m³ General Toxicity F1 NOAEC: 8,178 mg/m³ OECD Test Guideline 416 no impairment of fertility has been observed, Published data
Cyclic amino alcohol	By analogy

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Reproduction / developmental toxicity screening test - Rat, male and female, Oral
 General Toxicity Parent NOAEL: 200 mg/kg bw/day
 General Toxicity F1 NOAEL: 200 mg/kg bw/day
 OECD Test Guideline 422
 Gavage, Unpublished reports

Developmental Toxicity/Teratogenicity

Benzene, dimethyl-

By analogy

Reproduction / developmental toxicity screening test - Rat, female, Inhalation
 Test period: 6 Days
 Method: OECD Test Guideline 414
 Effects on the progeny are not considered significant as they were observed only in doses leading to maternal toxicity, Published data

Benzene, ethyl-

Rat, female, Inhalation
 General Toxicity Maternal NOAEC: 500 ppm
 Teratogenicity NOAEC: 2,000 ppm
 Method: OECD Test Guideline 414
 Developmental toxicity was observed in the presence of maternal toxicity., Published data

Hindered amine

Rat, male and female, Oral
 General Toxicity Maternal NOAEL: 125 mg/kg bw/day
 Teratogenicity NOAEL F1: 250 mg/kg bw/day
 Developmental Toxicity NOAEL F1: 250 mg/kg bw/day
 Embryo-fetal toxicity. NOAEL F1: 250 mg/kg bw/day
 Method: OECD Test Guideline 416
 Highest dose tested, no embryotoxic or teratogenic effects have been observed, Unpublished reports

Benzene, (1-methylethyl)-

Pre-natal - Rabbit, male and female, inhalation (vapor)
 General Toxicity Maternal LOAEL: 500 ppm
 Developmental Toxicity NOAEL F1: 2,300 ppm
 Method: OECD Test Guideline 414
 no teratogenic effects have been observed, Published data

Pre-natal - Rat, male and female, inhalation (vapor)
 General Toxicity Maternal NOAEL: 100 ppm
 Developmental Toxicity NOAEL F1: 1,200 ppm
 Method: OECD Test Guideline 414
 no teratogenic effects have been observed, Published data

Benzene, methyl-

Rat, inhalation (vapor)
 General Toxicity Maternal NOAEC: 2,812 mg/m³
 Teratogenicity NOAEC: 2,812 mg/m³
 Method: according to a standardized method
 Published data, Possible risk of harm to the unborn child.

Rat, inhalation (vapor)
 General Toxicity Maternal NOAEC: 2,261 mg/m³
 Teratogenicity NOAEC: 4,522 mg/m³
 Published data, Possible risk of harm to the unborn child.

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2-Pentanone, 4-methyl-

Rat, male and female, inhalation (vapor)
 General Toxicity Maternal NOAEL: 4,106 mg/m³
 Teratogenicity NOAEL:12,292mg/m³
 Method: OECD Test Guideline 414
 fetotoxic effect, Maternal toxicity, no teratogenic effects have been observed,
 Published data

Mouse, male and female, inhalation (vapor)
 General Toxicity Maternal NOAEL: 4,106 mg/m³
 Teratogenicity NOAEL:12,293mg/m³
 Method: OECD Test Guideline 414
 fetotoxic effect, Maternal toxicity, no teratogenic effects have been observed,
 Published data

STOT**STOT-single exposure**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation 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 classified as specific target organ toxicant, repeated exposure, category 2 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.

The product itself has not been tested.

Neurological effects

Benzene, dimethyl-

Rat, male and female, inhalation (vapor), OPPTS 870.3800, Published data

2-Pentanone, 4-methyl-

Rat, No neurotoxic effects observed., Published data

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**

Benzene, dimethyl-

Animal testing did not show any carcinogenic effects.

Benzene, (1-methylethyl)-

Classified as carcinogen category 1B according to GHS criteria

2-Pentanone, 4-methyl-

Classified as carcinogen category 2 according to GHS criteria

Mutagenicity

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Benzene, dimethyl-

Animal testing did not show any mutagenic effects.

Hindered amine

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Teratogenicity

Benzene, dimethyl-

Did not show teratogenic effects in animal experiments.

Hindered amine

Not classified as toxic for the reproduction (development) according to GHS criteria

Benzene, methyl-

Classified as toxic for the reproduction in Category 2 (development) according to GHS criteria

Reproductive toxicity

Benzene, dimethyl-

Animal testing did not show any effects on fertility.

Hindered amine

Not classified as toxic for the reproduction (fertility and/or development) according to GHS criteria

Aspiration toxicity

May be fatal if swallowed and enters airways., 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

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Hindered amine

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.

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

Conclusion is not possible due to incomplete or heterogeneous data on the

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environmental compartments

components

12.5 Results of PBT and vPvB assessment

According to the available data on the components
 Product does not contain substances which are persistent, bioaccumulative, and toxic (PBT) at levels of 0.1% or higher.
 Product does not contain substances which are very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Toxic to aquatic life.
 According to the available data on the components.
 According to the classification criteria for mixtures.
 Unpublished reports and/or published data.

Long-term (chronic) aquatic hazard

Toxic 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.

49 CFR

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUIDS, N.O.S. (Xylene, Ethylbenzene)
14.3 Transport hazard class	3
Label(s)	3
14.4 Packing group	
Packing group	III
ERG No	128
14.5 Environmental hazards	YES
Marine pollutant	Marine Pollutant (Hindered amine)
14.6 Special precautions for user	

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

Reportable quantities : RQ substance: Xylene
RQ limit for substance: 100 lb

RQ substance: Ethylbenzene
RQ limit for substance: 1,000 lb

TDG

14.1 UN number UN 1993

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene)

14.3 Transport hazard class 3
Label(s) 3

14.4 Packing group
Packing group III
ERG No 128

14.5 Environmental hazards YES
Marine pollutant Marine Pollutant (Hindered amine)

NOM

14.1 UN number UN 1993

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene, Hindered amine)

14.3 Transport hazard class 3
Label(s) 3

14.4 Packing group
Packing group III
ERG No 128

14.5 Environmental hazards YES
Marine pollutant

IMDG

14.1 UN number UN 1993

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene, Hindered amine)
IMDG Code segregation group Not Relevant

14.3 Transport hazard class 3
Label(s) 3

14.4 Packing group
Packing group III

14.5 Environmental hazards YES
Marine pollutant

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14.6 Special precautions for user

EmS

F-E , S-E

For personal protection see section 8.

14.7 Transport in bulk vessels according to IMO instruments

No data available

IATA**14.1 UN number**

UN 1993

14.2 Proper shipping name

FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene, Hindered amine)

14.3 Transport hazard class

3

Label(s):

3

14.4 Packing group

Packing group

III

Packing instruction (cargo aircraft)

366

Max net qty / pkg

220.00 L

Packing instruction (passenger aircraft)

355

Max net qty / pkg

60.00 L

14.5 Environmental hazards

YES

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
Australian Inventory of Industrial Chemicals (AIIC)	- All components are listed on the inventory, regulatory obligations/restrictions apply
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

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Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- 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. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions 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.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, 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
Skin corrosion or irritation	Yes
Serious eye damage or eye irritation	Yes
Respiratory or skin sensitization	Yes
Reproductive toxicity	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Aspiration hazard	Yes
Carcinogenicity	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
Benzene, dimethyl-	1330-20-7	40- 80%
Benzene, ethyl-	100-41-4	< 20%
Benzene, (1-methylethyl)-	98-82-8	0.1- 0.75%
2-Pentanone, 4-methyl-	108-10-1	0.1- 0.5%

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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)

This material does not contain any components with a SARA 302 RQ.

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

This material does not contain any components with a section 304 EHS RQ.

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

Components	CAS-No.	Reportable quantity
Benzene, dimethyl-	1330-20-7	100 lb
Benzene	71-43-2	10 lb
Benzene, chloro-	108-90-7	100 lb
Benzene, ethyl-	100-41-4	1000 lb
Benzene	71-43-2	10 lb
Benzene, methyl-	108-88-3	1000 lb
Benzene, (1-methylethyl)-	98-82-8	5000 lb
2-Pentanone, 4-methyl-	108-10-1	5000 lb
Benzene, 1,2-dichloro-	95-50-1	100 lb

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

Please contact your local sales representative if you have questions and need more information concerning this product under California's Proposition 65 statute (www.p65warnings.ca.gov).

SECTION 16: Other information**Further information**

- Distribute new edition to clients
- Update
- See section 2

Date Prepared: 12/19/2023**Key or legend to abbreviations and acronyms used in the safety data sheet**

- C: Ceiling
- CEIL: Acceptable ceiling concentration
- Peak: Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
- 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.

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- 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
- STOT:	Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

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.