

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : EP310N-A
Product code : 1-EP310N

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Adhesive

1.4. Supplier's details

Hottinger Brüel & Kjaer
19 Bartlett St.
Marlborough, MA 01590
USA
T 1-508-804-3268
support.@hbm.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 1015295
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquid, Category 2	H225	Highly flammable liquid and vapor.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Respiratory sensitization, Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H225 - Highly flammable liquid and vapor
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Precautionary statements (GHS US)

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H336 - May cause drowsiness or dizziness

: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical, lighting, ventilating equipment.
Avoid breathing mist, spray, vapors.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye and face protection.
Approved organic vapor respirator, Self-contained breathing apparatus respiratory protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice or attention.
Take off immediately all contaminated clothing and wash it before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center or doctor.
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 or doctor.
In case of fire: Use Dry chemical, CO₂, alcohol-resistant foam or waterspray to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Acetone	CAS-No.: 67-64-1	80 – 100	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Benzene-1,2:4,5-tetracarboxylic dianhydride	CAS-No.: 89-32-7	5 – 10	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Call a physician immediately. First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If the victim is unconscious : Lay in a stable manner on victim's side. Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin areas with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately transport the casualty to an eye doctor / hospital. Continue rinsing during the transport with isotonic saline solution, alternatively with water.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. May cause skin dryness or cracking.
Symptoms/effects after eye contact	: Serious damage to eyes. Stinging, redness, itching, tears, blurred vision, swelling.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Most Important Symptoms/Effects	: Risk of serious damage to eyes. May cause an allergy or asthma symptoms or breathing difficulties if inhaled. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Call a physician immediately.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , alcohol-resistant foam or waterspray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: Highly flammable liquid and vapor.
Explosion hazard	: Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon dioxide. Carbon monoxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: For small fire: Dry chemical, CO ₂ , alcohol-resistant foam or waterspray. For large fire: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Withdraw immediately in case of rising sound from venting devices or discoloration from tank. ALWAYS stay away from tanks engulfed in fire. For a massive fire, use unmanned hose holders or monitor nozzles, or withdraw from the area and allow fire to burn. Prevent fire-fighting water from entering environment.
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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the spray, mist, vapors. Do not take actions involving personal risks. Absorb spillage to prevent material-damage. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. Avoid breathing mist, spray, vapors. Avoid contact with skin and eyes. If possible without taking personal risks, Remove ignition sources, ventilate area. Prevent other non-emergency personnel from entering the danger area. No open flames, no sparks, and no smoking.

For emergency responders

Protective equipment : Wear the recommended personal protective equipment. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Do not touch spilled material. Stop leak if safe to do so. All equipment used when handling the product must be grounded. Reduce vapor with vapor-suppression foam.

Environmental precautions : Do not let the product reach soil, drains, sewers, or surface and ground water.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain with non-combustible inert absorbent. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk. Use only non-sparking tools.

Methods for cleaning up : Take up in non-combustible inert absorbent and place into container for disposal. Contaminated absorbent material may pose the same hazard as the spilt product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Water spray may reduce vapor, but may not prevent ignition in closed spaces. Notify authorities if product enters sewers or public waters. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

For further information refer to section 8: "Exposure controls/personal protection", For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Avoid breathing mist, spray, vapors. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharge. Absolutely no welding in the work area. Flammable vapors may accumulate in the container.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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Additional hazards when processed : Vapor/air mixtures are explosive. Handle empty containers with care because residual vapors are flammable.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Store in a cool, dry and well-ventilated area away from incompatible substances. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Protect from sunlight.

Incompatible materials : Strong acids. Strong bases. Strong oxidizing agents. Plastic materials. Rubbers.

Heat-ignition : No flames, no sparks. Eliminate all sources of ignition.

Packaging materials : Store always product in container of same material as original container. May attack plastics.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Use general ventilation, local exhaust ventilation, or process enclosure to keep the airborne concentrations below the permissible exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment. Wear recommended personal protective equipment.

Hand protection:

Wear protective gloves. Butyl rubber protective gloves with a permeation time of 480 minutes for each ingredient of this mixture. The following materials are unsuitable for protective gloves because of degradation, severe swelling or low permeation time: Chloroprene rubber, Nitrile rubber, Natural rubber, Polyvinylchloride (PVC), Fluorocarbon rubber

Eye protection:

Chemical goggles. Safety glasses or face shield which protect from splashes.

Skin and body protection:

Wear fire/flammable resistant/retardant clothing.

Respiratory protection:

An approved organic vapor respirator/supplied-air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits. In case of emergency: Use a positive pressure self-contained breathing apparatus (SCBA).

Personal protective equipment symbol(s):



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SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Color	: Transparent
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor. Vapors may form explosive mixture with air.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers. Plastic materials. Rubbers.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates: Carbon dioxide. Carbon monoxide.

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Acetone

LD50 oral rat	5800 mg/kg body weight
LD50 dermal rabbit	> 15800 mg/kg
LC50 Inhalation - Rat	> 20 mg/l/4h

Benzene-1,2:4,5-tetracarboxylic dianhydride

LD50 oral rat	> 2000 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Acetone

LOAEL (animal/female, F0/P)	11298 mg/kg body weight
NOAEL (animal/male, F0/P)	900 mg/kg body weight

STOT-single exposure : May cause drowsiness or dizziness.

Acetone

STOT-single exposure	May cause drowsiness or dizziness.
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STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.

Symptoms/effects after skin contact : May cause an allergic skin reaction. May cause skin dryness or cracking.

Symptoms/effects after eye contact : Serious damage to eyes. Stinging, redness, itching, tears, blurred vision, swelling.

Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Most Important Symptoms/Effects : Risk of serious damage to eyes. May cause an allergy or asthma symptoms or breathing difficulties if inhaled. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Acetone	
LC50 - Fish [1]	8300 mg/l
EC50 - Crustacea [1]	8450 mg/l
ErC50 algae	7200 mg/l
LOEC (chronic)	> 79 mg/l
NOEC (chronic)	≥ 79 mg/l
NOEC chronic crustacea	2212 mg/l

Benzene-1,2:4,5-tetracarboxylic dianhydride	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	63 mg/l
EC50 72h - Algae [1]	> 100 mg/l
LOEC (chronic)	> 79 mg/l
NOEC (chronic)	79 mg/l

12.2. Persistence and degradability

EP310N-A	
Persistence and degradability	Not rapidly degradable

Acetone	
Persistence and degradability	Not rapidly degradable

Benzene-1,2:4,5-tetracarboxylic dianhydride	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations. Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.

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Additional information : Flammable vapors may accumulate in the container. Do not re-use empty containers.
Ecological waste information : Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
UN1090	1090	1090
14.2. Proper Shipping Name		
Acetone	ACETONE	Acetone
14.3. Transport hazard class(es)		
3	3	3
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
	Dangerous for the environment: No Marine pollutant: No	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

UN-No. (DOT) : UN1090
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

IMDG

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG) : E

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Flash point (IMDG) : -20°C to -18°C c.c.
Properties and observations (IMDG) : Colorless, clear liquid, with a characteristic mint-like odor. Flashpoint: -20°C to -18°C c.c.
Explosive limits: 2.5% to 13%. Miscible with water.

IATA

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
ERG code (IATA) : 3H

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Acetone (67-64-1)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Acetone (67-64-1)

Listed on the Canadian DSL (Domestic Substances List)

Benzene-1,2:4,5-tetracarboxylic dianhydride (89-32-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Acetone (67-64-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Component	State or local regulations
Acetone(67-64-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Revision date : 7/11/2025
Issue date : 12/13/2024

Full text of hazard classes and H-statements	
H225	Highly flammable liquid and vapor
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H336	May cause drowsiness or dizziness
H402	Harmful to aquatic life

Indication of changes:

HazCom 2024.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.