



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 11/04/2014

Version 1.2

SECTION 1. Identification

Product identifier

Product number	104967
Product name	Potassium cyanide for analysis EMSURE® ACS,ISO,Reag. Ph Eur
CAS-No.	151-50-8

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Acute toxicity, Category 2, Oral, H300
Acute toxicity, Category 2, Inhalation, H330
Acute toxicity, Category 1, Dermal, H310

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Danger

Hazard Statements

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

Precautionary Statements

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P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing.
P284 Wear respiratory protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P320 Specific treatment is urgent (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P361 Remove/Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Water Reactive

SECTION 3. Composition/information on ingredients

Formula	KCN	CKN (Hill)
Molar mass	65.12 g/mol	

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Potassium cyanide (>= 90 % - <= 100 %)

151-50-8

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

General advice

Rapid action is called for. First aider needs to protect himself. Immediately call in physician (mentioning hydrocyanic acid poisoning).

Inhalation

After inhalation: fresh air. Call a physician immediately. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

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Eye contact

After eye contact: rinse out with plenty of water.

Ingestion

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, respiratory paralysis, Shortness of breath, Dizziness, Unconsciousness, Nausea, Vomiting, cardiovascular disorders, death

The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

Indication of any immediate medical attention and special treatment needed

Keep antidotes ready
dimethylaminophenol
Cobalt-EDTA
sodium thiosulfate

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Water, Carbon dioxide (CO₂)

Special hazards arising from the substance or mixture

Not combustible.
Ambient fire may liberate hazardous vapors.
Fire may cause evolution of:
Hydrogen cyanide (hydrocyanic acid)

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.
Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts in all circumstances. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal containers.

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage temperature: no restrictions.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>Potassium cyanide 151-50-8</i>			
ACGIH	Ceiling Limit Value:	5 mg/m ³	Expressed as: as CN
	Skin designation:		Can be absorbed through the skin. Expressed as: as CN
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	4.7 ppm 5 mg/m ³	Ceiling Limit Value 10-min Expressed as: as CN
OSHA_TRANS	PEL:	5 mg/m ³	Expressed as: as CN
	Skin designation:		Can be absorbed through the skin. Expressed as: as CN
Z1A	Time Weighted Average (TWA):	5 mg/m ³	Expressed as: as CN

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

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Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	white
Odor	bitter almond-like
Odor Threshold	No information available.
pH	ca. 11 - 12 at 20 g/l 68 °F (20 °C)
Melting point	634 °C
Boiling point/boiling range	2,957 °F (1,625 °C) at 1,013 hPa
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable

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Vapor pressure	at 68 °F (20 °C) Not applicable
Relative vapor density	No information available.
Density	1.55 g/cm³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	716 g/l at 77 °F (25 °C)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	Not applicable
Bulk density	ca. 750 kg/m³

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

sensitive to moisture

Possibility of hazardous reactions

Exothermic reaction with:

Fluorine, magnesium

Risk of explosion with:

chlorates, nitrites, nitrates, Strong oxidizing agents, permanganates, anhydrides, mercury(II) nitrate, nitrogen trichloride

A risk of explosion and/or of toxic gas formation exists with the following substances:

Water, Acids, Hydrogen fluoride, Carbon dioxide (CO₂)

Conditions to avoid

Exposure to moisture.

Incompatible materials

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Aluminum, Zinc, Tin

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Target Organs

Eyes

Skin

Respiratory system

cardiovascular system

Central nervous system

thyroid

Blood

Acute oral toxicity

LD50 Rat: 7.49 mg/kg (ECHA)

Rapid absorption.

Acute inhalation toxicity

Acute toxicity estimate: 0.051 mg/l

Expert judgment

Symptoms: mucosal irritations

absorption

Acute dermal toxicity

LD50 Rabbit: 14.29 mg/kg

(ECHA)

absorption

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(IUCLID)

Mutagenicity (mammal cell test):

Result: negative

(ECHA)

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Systemic effects:

After absorption:

Nausea, Vomiting, Shortness of breath, Dizziness, Unconsciousness, respiratory paralysis, cardiovascular disorders, tachycardia, death

The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

This substance should be handled with particular care.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 0.45 mg/l; 96 h (in soft water) (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC5 *E.sulcatum*: 1.8 - 1.9 mg/l; 72 h (referred to cyanide ions) (IUCLID) (maximum permissible toxic concentration)

EC50 *Daphnia magna* (Water flea): 2 mg/l; 48 h (Hommel)

Toxicity to algae

IC5 *Scenedesmus quadricauda* (Green algae): 0.03 mg/l; 8 d (referred to cyanide ions) (IUCLID) (maximum permissible toxic concentration)

Toxicity to bacteria

EC5 *Pseudomonas putida*: 0.001 mg/l; 16 h (referred to the anion) (IUCLID) (maximum permissible toxic concentration)

EC50 activated sludge: 0.6 - 2.3 mg/l; 30 min (IUCLID)

Persistence and degradability

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Biodegradability

99 %; 42 d; aerobic

(External MSDS)

Readily biodegradable.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Additional ecological information

Biological effects:

Hazard for drinking water supplies.

Forms toxic mixtures in water, dilution measures notwithstanding.

Reacts with water to form toxic decomposition products.

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1680
Proper shipping name	POTASSIUM CYANIDE, SOLID
Class	6.1
Packing group	I
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1680
Proper shipping name	POTASSIUM CYANIDE, SOLID
Class	6.1
Packing group	I
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1680
Proper shipping name	POTASSIUM CYANIDE, SOLID
Class	6.1
Packing group	I
Environmentally hazardous	--
Special precautions for user	yes

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EmS

F-A S-A

SECTION 15. Regulatory information

United States of America

SARA 313

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

Ingredients

Potassium cyanide	151-50-8	100 %
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SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients

Potassium cyanide	151-50-8
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DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

Potassium cyanide

Pennsylvania Right To Know

Ingredients

Potassium cyanide

New Jersey Right To Know

Ingredients

Potassium cyanide

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

EUH032 Contact with acids liberates very toxic gas.

Precautionary Statements

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Full text of H-Statements referred to under sections 2 and 3.

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

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

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 11/04/2014

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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