Qualikems Lifesciences Pvt. Ltd.

(Formerly known as Qualikems fine chem Pvt Ltd)
Works : Plot No. 68-69,G.I.D.C Industrial Estate,Nandesari,Vadodara-391340 (Gujarat)
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Email: salesindia@qualikems.com ,www.qualikems.com

SECTION 1: Identification of the substance / mixture and of the company / undertaking

Product identifiers

Product name : **Acrylonitrile**

CAS-No. : **107-13-1**

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

Identified uses : Laboratory chemicals, Manufacture of substances

Details of the supplier of the safety data sheet

Company : Qualikems Lifesciences Pvt Ltd

Works :
Plot No. 68.69,G.I.D.C
Industrial Estate,
Nandesari, Vadodara-
391340 (Gujarat)

Emergency telephone

Emergency Phone # : +91-265-2841531 (9:00am - 6:30 pm) [Office hours]

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272 / 2008

Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 3), H311
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Skin sensitization (Category 1), H317
Carcinogenicity (Category 1B), H350
Reproductive toxicity (Category 2), H361fd
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Long-term (chronic) aquatic hazard (Category 2), H411

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

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H301 + H311	Toxic if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Restricted to professional users.

Reduced Labeling (<= 125 ml)

Pictogram



Signal word	Danger
Hazard statement(s)	
H330	Fatal if inhaled.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H318	Causes serious eye damage.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H301 + H311	Toxic if swallowed or in contact with skin.
Precautionary statement(s)	
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable

	for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Lachrymator., Vesicant.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Vinyl cyanide
Formula	:	C_3H_3N
Molecular weight	:	53,06 g/mol
CAS-No.	:	107-13-1
EC-No.	:	203-466-5
Index-No.	:	608-003-00-4

Component		Classification	Concentration
acrylonitrile			
CAS-No. EC-No. Index-No.	107-13-1 203-466-5 608-003-00-4	Flam. Liq. 2; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1B; Carc. 1B; Repr. 2; STOT SE 3; Aquatic Chronic 2; H225, H301, H331, H311, H315, H318, H317, H350, H361fd, H335, H411	<= 100 %

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

SECTION 4: First aid measures

Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
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.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

Extinguishing media Suitable

extinguishing media
Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at ambient temperatures.

Advice for firefighters
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
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

Environmental precautions
Do not let product enter drains. Risk of explosion.

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 with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Light sensitive.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredients with workplace control parameters

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact
Material: butyl-rubber
Minimum layer thickness: 0,3 mm
Break through time: 480 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 37 min
Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
Recommended Filter type: Filter A-(P3)

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

a)	Appearance	Form: clear, liquid Color: colorless
b)	Odor	pungent
c)	Odor Threshold	21,4 ppm
d)	pH	No data available
e)	Melting point/freezing point	Melting point/range: -83 °C - lit.
f)	Initial boiling point and boiling range	77 °C - lit.
g)	Flash point	-5 °C - closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower	Upper explosion limit: 28 %(V)

	flammability or explosive limits	Lower explosion limit: 2 %(V)
k)	Vapor pressure	133,3 hPa at 23,6 °C
l)	Vapor density	1,83 - (Air = 1.0)
m)	Relative density	No data available
n)	Water solubility	soluble
o)	Partition coefficient: n-octanol/water	log Pow: 0,016 at 21 °C - Bioaccumulation is not expected.
p)	Autoignition temperature	481 °C at 1.013 hPa
q)	Decomposition temperature	No data available
r)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0,34 mPa.s at 25 °C
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

Other safety information

Surface tension	27,3 mN/m at 24 °C
Relative vapor density	1,83 - (Air = 1.0)

SECTION 10: Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat. May polymerize on exposure to light.
Warming.

Incompatible materials

Oxidizing agents, Copper

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 95,1 mg/kg
(Calculation method)

LD50 Oral - Rat - female - 95,1 mg/kg
Remarks: (ECHA)
Acute toxicity estimate Inhalation - 4 h - 2 mg/l
(Calculation method)
LC50 Inhalation - Rat - female - 4 h - 2,05 mg/l
(OECD Test Guideline 403)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute toxicity estimate Dermal - 226 mg/kg
(Calculation method)
LD50 Dermal - Rabbit - 250 mg/kg
Remarks: (IUCLID)

Skin corrosion / irritation

Skin - Rabbit
Result: Skin irritation - 24 h
(OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage / eye irritation

Eyes - Rabbit
Result: Risk of serious damage to eyes.
(OECD Test Guideline 405)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

Maximization Test - Guinea pig
Result: positive
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test
Test system: S. typhimurium
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: positive

Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Result: positive
Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells

Metabolic activation: without metabolic activation
Method: OECD Test Guideline 476
Result: positive

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging fertility.
Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure
May cause respiratory irritation.
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)**Specific target organ toxicity - repeated exposure**
No data available

Aspiration hazard
No data available

Additional Information
RTECS: AT5250000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Headache
Nausea
Vomiting
Dizziness
agitation
Convulsions
respiratory arrest
Unconsciousness

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.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

Toxicity

Toxicity to fish	semi-static test LC50 - Oryzias latipes - 5,1 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 2,5 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - 10 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC5 - Pseudomonas putida - 53 mg/l - 16 h Remarks: (Lit.) (maximum permissible toxic concentration)

Persistence and degradability

Biodegradability	aerobic - Exposure time 14 d Result: 100 % - Inherently biodegradable. (OECD Test Guideline 302C)
Ratio BOD/ThBOD	70 % Remarks: (Lit.)

Bioaccumulative potential

Bioaccumulation	Lepomis macrochirus - 14 d - 9,94 µg/l(acrylonitrile) Bioconcentration factor (BCF): 48

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

UN number

ADR/RID: 1093 IMDG: 1093 IATA: 1093

UN proper shipping name

ADR/RID: ACRYLONITRILE, STABILIZED
IMDG: ACRYLONITRILE, STABILIZED
IATA: Acrylonitrile, stabilized
Passenger Aircraft: Not permitted for transport

Transport hazard class(es)

ADR/RID: 3 (6.1)	IMDG: 3 (6.1)	IATA: 3 (6.1)

Packaging group

ADR/RID: I	IMDG: I	IATA: I

Environmental hazards

ADR/RID: yes	IMDG Marine pollutant: yes	IATA: no

Special precautions for user

No data available

SECTION 15: Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and / or restrictions on use

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	: ACUTE TOXIC
	: FLAMMABLE LIQUIDS
	: ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H225	Highly flammable liquid and vapor.
H301	Toxic if swallowed.
H301 + H311	Toxic if swallowed or in contact with skin.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

H411 Toxic to aquatic life with long lasting effects.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Qualikems Lifesciences Pvt. Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.qualikems.com for additional terms and conditions of sale.