

1 Identification

- **Product identifier**
- **Product Name:** Acrolein/Acrylonitrile
- **Part Number:** 603-M-10K
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SPEX CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 Health hazard

Carc. 1B H350 May cause cancer.

STOT SE 1 H370 Causes damage to organs.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS05



GHS06



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

methanol
acrylaldehyde
acrylonitrile

- **Hazard statements**

H225 Highly flammable liquid and vapor.

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*H330 Fatal if inhaled.**H314 Causes severe skin burns and eye damage.**H317 May cause an allergic skin reaction.**H350 May cause cancer.**H370 Causes damage to organs.***Precautionary statements***If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**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.**Specific treatment is urgent (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Classification system:****NFPA ratings (scale 0 - 4)****HMS-ratings (scale 0 - 4)**

HEALTH	3	Health = *3
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

Other hazards**Results of PBT and vPvB assessment***PBT: Not applicable.**vPvB: Not applicable.***3 Composition/information on ingredients****Chemical characterization: Mixtures***Description: Mixture of the substances listed below with nonhazardous additions.***Dangerous components:**

67-56-1	methanol	98.0%
107-02-8	acrylaldehyde	1.0%
107-13-1	acrylonitrile	1.0%

4 First-aid measures**Description of first aid measures****General information:***Immediately remove any clothing soiled by the product.**Remove breathing apparatus only after contaminated clothing have been completely removed.**In case of irregular breathing or respiratory arrest provide artificial respiration.***After inhalation:***Supply fresh air or oxygen; call for doctor.**In case of unconsciousness place patient stably in side position for transportation.***After skin contact: Immediately wash with water and soap and rinse thoroughly.***After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.***After swallowing:***Do not induce vomiting; immediately call for medical help.**Drink copious amounts of water and provide fresh air. Immediately call a doctor.***Information for Doctor:***Most important symptoms and effects, both acute and delayed No further relevant information available.**Indication of any immediate medical attention and special treatment needed No further relevant information available.***5 Fire-fighting measures****Extinguishing media***Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents: Water with full jet**Special hazards arising from the substance or mixture No further relevant information available.*

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- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

67-56-1	methanol	530 ppm
107-02-8	acrylaldehyde	0.030 ppm
107-13-1	acrylonitrile	0.15 ppm

- **PAC-2:**

67-56-1	methanol	2,100 ppm
107-02-8	acrylaldehyde	0.10 ppm
107-13-1	acrylonitrile	1.7 ppm

- **PAC-3:**

67-56-1	methanol	7200* ppm
107-02-8	acrylaldehyde	1.4 ppm
107-13-1	acrylonitrile	28 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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· Control parameters

· Components with limit values that require monitoring at the workplace:

67-56-1 methanolPEL Long-term value: 260 mg/m³, 200 ppmREL Short-term value: 325 mg/m³, 250 ppm
Long-term value: 260 mg/m³, 200 ppm
SkinTLV Short-term value: 328 mg/m³, 250 ppm
Long-term value: 262 mg/m³, 200 ppm
Skin; BEI**107-02-8 acrylaldehyde**PEL Long-term value: 0.25 mg/m³, 0.1 ppmREL Short-term value: 0.8 mg/m³, 0.3 ppm
Long-term value: 0.25 mg/m³, 0.1 ppm
See Pocket Guide App. CTLV Ceiling limit value: 0.23 mg/m³, 0.1 ppm
Skin**107-13-1 acrylonitrile**PEL Long-term value: 2 ppm
Ceiling limit value: 10 ppm
Skin; see 29 CFR 1910.1045REL Long-term value: 1 ppm
Ceiling limit value: 10* ppm
*15-min; Skin; See Pocket Guide App. ATLV Long-term value: 4.3 mg/m³, 2 ppm
Skin

· Ingredients with biological limit values:

67-56-1 methanolBEI 15 mg/L
Medium: urine
Time: end of shift
Parameter: Methanol (background, nonspecific)

· Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odour Threshold:	Not applicable.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	64.7 °C (148 °F)

· Flash point: 11 °C (52 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C (851 °F)

· Decomposition temperature: Not applicable.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44.0 Vol %

· Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg)

· Density at 20 °C (68 °F) 0.7908 g/cm³ (6.599 lbs/gal)

· Relative density Not applicable.

· Vapor density Not applicable.

· Evaporation rate Not applicable.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not applicable.

· Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

· Solvent content:

Organic solvents: 99.0 %

VOC content: 99.0 %

· Other information No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

US

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11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

107-02-8 acrylaldehyde

Oral	LD50	46 mg/kg (rat)
Dermal	LD50	562 mg/kg (rabbit)

107-13-1 acrylonitrile

Oral	LD50	78 mg/kg (rat)
Dermal	LD50	250 mg/kg (rabbit)
Inhalative	LC50/4 h	425 mg/l (rat)

- Primary irritant effect:
- on the skin: Caustic effect on skin and mucous membranes.
- on the eye: Strong caustic effect.
- Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Carcinogenic.

- Carcinogenic categories

· IARC (International Agency for Research on Cancer)

107-02-8	acrylaldehyde	3
107-13-1	acrylonitrile	2B

· NTP (National Toxicology Program)

107-13-1	acrylonitrile	R
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· OSHA-Ca (Occupational Safety & Health Administration)

107-13-1	acrylonitrile	
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12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Ecotoxicological effects:
- Remark: Very toxic for fish
- Additional ecological information:
- General notes:
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA**

UN1230

- **UN proper shipping name**
- **DOT**
- **ADR**
- **IMDG**
- **IATA**

Methanol
1230 Methanol, ENVIRONMENTALLY HAZARDOUS
METHANOL, MARINE POLLUTANT
METHANOL

- **Transport hazard class(es)**

- **DOT**



- **Class** 3 Flammable liquids
- **Label** 3, 6.1

- **ADR**



- **Class** 3 Flammable liquids
- **Label** 3+6.1

- **IMDG**



- **Class** 3 Flammable liquids
- **Label** 3/6.1

- **IATA**



- **Class** 3 Flammable liquids
- **Label** 3 (6.1)

- **Packing group**
- **DOT, ADR, IMDG, IATA**

II

- **Environmental hazards:**
- **Marine pollutant:**
- **Special marking (ADR):**

Product contains environmentally hazardous substances: acrylaldehyde
Symbol (fish and tree)
Symbol (fish and tree)

- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Stowage Category**
- **Stowage Code**

Warning: Flammable liquids
336
F-E,S-D
B
SW2 Clear of living quarters.

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· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1230 METHANOL, 3 (6.1), II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

107-13-1 acrylonitrile

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

67-56-1 methanol

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

107-02-8 acrylaldehyde

I

107-13-1 acrylonitrile

B1

· **TLV (Threshold Limit Value established by ACGIH)**

107-02-8 acrylaldehyde

A4

107-13-1 acrylonitrile

A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

107-13-1 acrylonitrile

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02

GHS05

GHS06

GHS07

GHS08

- **Signal word** Danger

· **Hazard-determining components of labeling:**

methanol

acrylaldehyde

acrylonitrile

· **Hazard statements**

H225 Highly flammable liquid and vapor.

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

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H350 May cause cancer.

H370 Causes damage to organs.

Precautionary statements

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Specific treatment is urgent (see on this label).

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: product safety department

Contact:

SPEX CertiPrep, LLC.

1-732-549-7144

Date of preparation / last revision 10/11/2017 / -

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 1B: Carcinogenicity – Category 1B

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

US