

1 Identification

- **Product identifier**
- **Product Name:** Acrolein and Acrylonitrile in Methanol P&T
- **Part Name:** 603-XM
- **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
732-549-7144
USMet-CRMSales@antylia.com
- **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

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3

H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure 1 H370 Causes damage to the central nervous system and the visual organs.



GHS05 Corrosion

Skin Corrosion 1B

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Sensitization - Skin 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

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 1)

Hazard statements

- H225 Highly flammable liquid and vapor.
- H331 Toxic 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 the central nervous system and the visual organs.

Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P260 Do not breathe dusts or mists.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a poison center/doctor.
- P321 Specific treatment (see on this label).
- P363 Wash contaminated clothing before reuse.
- 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.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



HMIS-ratings (scale 0 - 4)



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	99.6%
107-02-8	acrylaldehyde	0.2%
107-13-1	acrylonitrile	0.2%

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 give anything to eat or drink - Do not induce vomiting

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.

(Contd. on page 3)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 2)

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.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
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.

(Contd. on page 4)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 3)

· Control parameters

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

67-56-1 methanol	
PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 250 ppm Long-term value: 200 ppm Skin; BEI
107-02-8 acrylaldehyde	
PEL	Long-term value: 0.25 mg/m ³ , 0.1 ppm
REL	Short-term value: 0.8 mg/m ³ , 0.3 ppm Long-term value: 0.25 mg/m ³ , 0.1 ppm See Pocket Guide App. C
TLV	Ceiling limit value: 0.1 ppm Skin, A4
107-13-1 acrylonitrile	
PEL	Long-term value: 2 ppm Ceiling limit value: 10* ppm *15 Min., Skin; see 29 CFR 1910.1045
REL	Long-term value: 1 ppm Ceiling limit value: 10* ppm *15-min; Skin; See Pocket Guide App. A
TLV	Long-term value: 2 ppm Skin, A3
· Ingredients with biological limit values:	
67-56-1 methanol	
BEI	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.
- 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.

(Contd. on page 5)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 4)

· 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 (148.5 °F)

· Flash point: < 23 °C (< 73.4 °F)

· Flammability (solid, gaseous): Highly flammable.

· 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 Vol %

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

· Density at 20 °C (68 °F) 0.79016 g/cm³ (6.59389 lbs/gal)

· Relative density Not applicable.

· Vapor density Not applicable.

· Evaporation rate Not applicable.

· Solubility in / Miscibility with

Water: Fully miscible.

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

· Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

· Solvent content:

Organic solvents:	99.8 %
VOC content:	99.80 %

Solids content: 0.0 %

· 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.

(Contd. on page 6)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 5)

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Caustic effect on skin and mucous membranes.

· **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

· **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

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

107-02-8	acrylaldehyde	2A
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.

· **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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

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.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** UN1230

· **UN proper shipping name**

· **DOT** Methanol
· **ADR** 1230 METHANOL

(Contd. on page 7)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 6)

· IMDG, IATA	METHANOL
· Transport hazard class(es)	
· DOT	
 	
· Class	3 Flammable liquids
· Label	3, 6.1
<hr/>	
· ADR	
 	
· Class	3 Flammable liquids
· Label	3+6.1
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· IMDG	
 	
· Class	3 Flammable liquids
· Label	3/6.1
<hr/>	
· IATA	
 	
· Class	3 Flammable liquids
· Label	3 (6.1)
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	336
· EMS Number:	F-E,S-D
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 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
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· 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

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.

(Contd. on page 8)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 7)

· TSCA (Toxic Substances Control Act):	
All components have the value ACTIVE.	
· Hazardous Air Pollutants	
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)**

107-02-8	acrylaldehyde	A4
107-13-1	acrylonitrile	A3

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

107-13-1	acrylonitrile
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· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



· **Signal word** Danger

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

methanol
acrylaldehyde
acrylonitrile

· **Hazard statements**

H225 Highly flammable liquid and vapor.
H331 Toxic 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 the central nervous system and the visual organs.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/doctor.
P321 Specific treatment (see on this label).
P363 Wash contaminated clothing before reuse.
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.
P501 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.

(Contd. on page 9)

Product Name: Acrolein and Acrylonitrile in Methanol P&T

(Contd. of page 8)

· **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** 10/25/2022 / -

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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

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

Flammable Liquids 2: Flammable liquids – Category 2

Acute Toxicity - Inhalation 3: Acute toxicity – Category 3

Skin Corrosion 1B: Skin corrosion/irritation – Category 1B

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - Skin 1: Skin sensitisation – Category 1

Carcinogenicity 1B: Carcinogenicity – Category 1B

Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1