

1 Identification

- **Product identifier**
- **Product Name:** Purgeable Gases, Mix B (High Level)
- **Part Name:** 624-BH
- **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 1A

H350 May cause cancer.

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

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



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**

methanol
vinyl chloride
chloromethane
bromomethane

- **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
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.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 1)

- 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.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
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	99.0%
74-83-9	bromomethane	0.2%
74-87-3	chloromethane	0.2%
75-00-3	chloroethane	0.2%
75-01-4	vinyl chloride	0.2%

· **Chemical identification of the substance/preparation**

75-69-4	trichlorofluoromethane	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.

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.

(Contd. on page 3)

Printing date 02/27/2023

Reviewed on 02/27/2023

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 2)

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).

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
74-83-9	bromomethane	19 ppm
74-87-3	chloromethane	150 ppm
75-00-3	chloroethane	300 ppm
75-01-4	vinyl chloride	250 ppm
75-69-4	trichlorofluoromethane	91 ppm

· PAC-2:

67-56-1	methanol	2,100 ppm
74-83-9	bromomethane	210 ppm
74-87-3	chloromethane	910 ppm
75-00-3	chloroethane	5100* ppm
75-01-4	vinyl chloride	1,200 ppm
75-69-4	trichlorofluoromethane	1,000 ppm

· PAC-3:

67-56-1	methanol	7200* ppm
74-83-9	bromomethane	740 ppm
74-87-3	chloromethane	3,000 ppm
75-00-3	chloroethane	20000** ppm
75-01-4	vinyl chloride	4800* ppm
75-69-4	trichlorofluoromethane	10,000 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: Purgeable Gases, Mix B (High Level)

(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
74-83-9 bromomethane	
PEL	Ceiling limit value: 80 mg/m ³ , 20 ppm Skin
REL	See Pocket Guide App. A
TLV	Long-term value: 1 ppm Skin, A4
74-87-3 chloromethane	
PEL	Long-term value: 100 ppm Ceiling limit value: 200; 300* ppm *5-min peak in any 3 hrs
REL	See Pocket Guide App. A
TLV	Short-term value: 100 ppm Long-term value: 50 ppm Skin, A4
75-00-3 chloroethane	
PEL	Long-term value: 2600 mg/m ³ , 1000 ppm
REL	Handle with caution; See Pocket Guide App. C
TLV	Long-term value: 100 ppm Skin, A3
75-01-4 vinyl chloride	
PEL	Short-term value: 5* ppm Long-term value: 1 ppm *Avg. not exceeding any 15 min; see 29CFR1910.1017
REL	See Pocket Guide App. A
TLV	Long-term value: 1 ppm A1

· 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.

· 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

(Contd. on page 5)

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 4)

· **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.

· **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)** 0.78395 g/cm³ (6.54206 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:	99.2 %
VOC content:	99.00 %

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.

(Contd. on page 6)

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

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 eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

· **Carcinogenic categories**

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

74-83-9	bromomethane	3
74-87-3	chloromethane	3
75-00-3	chloroethane	3
75-01-4	vinyl chloride	I

· **NTP (National Toxicology Program)**

75-01-4	vinyl chloride	K
---------	----------------	---

· **OSHA-Ca (Occupational Safety & Health Administration)**

75-01-4	vinyl chloride	
---------	----------------	--

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 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even 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
· **IMDG, IATA** METHANOL









(Contd. on page 7)

Printing date 02/27/2023

Reviewed on 02/27/2023

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 6)

· 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:	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
· 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)

Printing date 02/27/2023

Reviewed on 02/27/2023

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 7)

· TSCA (Toxic Substances Control Act):		
All components have the value ACTIVE.		
· Hazardous Air Pollutants		
67-56-1	methanol	
74-83-9	bromomethane	
74-87-3	chloromethane	
75-00-3	chloroethane	
75-01-4	vinyl chloride	
· Proposition 65		
· Chemicals known to cause cancer:		
75-00-3	chloroethane	
75-01-4	vinyl chloride	
· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		
· Chemicals known to cause reproductive toxicity for males:		
74-87-3	chloromethane	
· Chemicals known to cause developmental toxicity:		
67-56-1	methanol	
74-83-9	bromomethane	
74-87-3	chloromethane	
· Carcinogenic categories		
· EPA (Environmental Protection Agency)		
74-83-9	bromomethane	D
74-87-3	chloromethane	D, CBD
75-01-4	vinyl chloride	A, K/L
· TLV (Threshold Limit Value)		
74-83-9	bromomethane	A4
74-87-3	chloromethane	A4
75-00-3	chloroethane	A3
75-01-4	vinyl chloride	A1
75-69-4	trichlorofluoromethane	A4
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
74-83-9	bromomethane	
74-87-3	chloromethane	
75-01-4	vinyl chloride	

· **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
vinyl chloride
chloromethane
bromomethane

· **Hazard statements**

H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
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.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.

(Contd. on page 9)

Product Name: Purgeable Gases, Mix B (High Level)

(Contd. of page 8)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see on this label).
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.

· **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** 02/27/2023

· **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

Carcinogenicity 1A: Carcinogenicity – Category 1A

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