

## 1 Identification

- **Product identifier**
- **Trade name:** STD-NGA CAL BLEND with/without Syringe Adapter
- **Article number**  
N6107200  
N6107201
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



Exploding bomb

Unst. Expl. H200 Unstable explosive.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS01
- **Signal word** Danger
- **Hazard statements**  
H200 Unstable explosive.
- **Precautionary statements**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P281 Wear personal protective equipment/face protection.  
P372 Explosion risk in case of fire.  
P373 DO NOT fight fire when fire reaches explosives.  
P380 Evacuate area.  
P401 Store in accordance with local/regional/national/international regulations.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 4  
Reactivity = 4

- **HMIS-ratings (scale 0 - 4)**



Health = 0  
Fire = 4  
Reactivity = 4

**Trade name: STD-NGA CAL BLEND with/without Syringe Adapter**

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· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **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.

· **Hazardous components:**

74-82-8	methane	Flam. Gas 1, H220 Press. Gas, H280	81.43%
1333-74-0	hydrogen	Flam. Gas 1, H220 Press. Gas, H280	5.0%
7727-37-9	nitrogen	Press. Gas, H281	3.9%
74-84-0	ethane	Flam. Gas 1, H220 Press. Gas, H280	3.0%
74-98-6	propane	Flam. Gas 1, H220 Press. Gas, H280	2.02%
7440-37-1	argon	Press. Gas, H281	1.02%
75-28-5	isobutane	Flam. Gas 1, H220 Press. Gas, H280	1.01%

· **Additional Components**

106-97-8	butane	Flam. Gas 1, H220 Press. Gas, H280	0.99%
78-78-4	isopentane	Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336	0.49%
109-66-0	pentane	Flam. Liq. 2, H225 Asp. Tox. 1, H304 STOT SE 3, H336	0.48%
124-38-9	carbon dioxide	Press. Gas, H280	0.4%
75-83-2	2,2-dimethylbutane	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	0.26%

### 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

In cases of frost bites, rinse with plenty of water. Do not remove clothing.

Call a doctor immediately.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self contained breathing apparatus for fire fighting if necessary
- **Additional information**  
Cool endangered receptacles with water spray.  
Vapors may travel considerable distance to source of ignition and flash back.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Remove persons from danger area.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:** No special measures required.
- **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:

74-82-8	methane	65000*** ppm
1333-74-0	hydrogen	65000*** ppm
7727-37-9	nitrogen	7.96E+05 ppm
74-84-0	ethane	65000*** ppm
74-98-6	propane	5500* ppm
7440-37-1	argon	65,000 ppm
75-28-5	isobutane	5500* ppm
106-97-8	butane	5500* ppm
78-78-4	isopentane	3000* ppm
109-66-0	pentane	3000* ppm
75-83-2	2,2-dimethylbutane	1,000 ppm

### · PAC-2:

74-82-8	methane	230000*** ppm
1333-74-0	hydrogen	230000*** ppm
7727-37-9	nitrogen	8.32E+05 ppm
74-84-0	ethane	230000*** ppm
74-98-6	propane	17000** ppm
7440-37-1	argon	2.30E+05 ppm
75-28-5	isobutane	17000** ppm
106-97-8	butane	17000** ppm

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78-78-4	isopentane	33000*** ppm
109-66-0	pentane	33000*** ppm
75-83-2	2,2-dimethylbutane	11000** ppm
<b>· PAC-3:</b>		
74-82-8	methane	400000*** ppm
1333-74-0	hydrogen	400000*** ppm
7727-37-9	nitrogen	8.69E+05 ppm
74-84-0	ethane	400000*** ppm
74-98-6	propane	33000*** ppm
7440-37-1	argon	4.00E+05 ppm
75-28-5	isobutane	53000*** ppm
106-97-8	butane	53000*** ppm
78-78-4	isopentane	200000*** ppm
109-66-0	pentane	200000*** ppm
75-83-2	2,2-dimethylbutane	66000*** ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Prevent impact and friction.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Protect from heat and direct sunlight.
- **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.
- **Control parameters**

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

<b>74-82-8 methane</b>	
TLV	refer to App. F in TLVs and BEIs book; NIC-D, EX
<b>1333-74-0 hydrogen</b>	
TLV	TLV withdrawn-see App. F; simple asphyxiant; (D, EX)
<b>7727-37-9 nitrogen</b>	
TLV	withdrawn TLV, see App. F; simple asphyxiant
<b>74-84-0 ethane</b>	
TLV	Refer to Appendix F in TLVs & BEIs book; (D, EX)

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**74-98-6 propane**

PEL	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
TLV	refer to Appendix F in TLVs & BEIs book; D, EX

**7440-37-1 argon**

TLV	see App. F, Simple asphyxiant
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**75-28-5 isobutane**

TLV	Short-term value: 2370 mg/m <sup>3</sup> , 1000 ppm (EX)
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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

· **Breathing equipment:** Not required.

· **Protection of hands:**

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

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.

· **Eye protection:** Required

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Gaseous
<b>Color:</b>	According to product specification

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

· **Flash point:** < 0 °C (<32 °F)

· **Flammability (solid, gaseous):** Not determined.

· **Ignition temperature:** 595 °C (1,103 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Risk of explosion by shock, friction, fire or other sources of ignition.

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- |  |                 |
|--|-----------------|
| · <b>Explosion limits:</b>   |                 |
| <b>Lower:</b>  | 5 Vol %         |
| <b>Upper:</b>  | 15 Vol %        |
| · <b>Vapor pressure:</b> Not determined.   |                 |
| · <b>Density at 20 °C (68 °F):</b> 0.4362 g/cm <sup>3</sup> (3.64009 lbs/gal)      |                 |
| · <b>Relative density</b> Not determined.  |                 |
| · <b>Vapor density</b> Not determined.   |                 |
| · <b>Evaporation rate</b> Not applicable.  |                 |
| · <b>Solubility in / Miscibility with Water:</b> Not miscible or difficult to mix. |                 |
| · <b>Partition coefficient (n-octanol/water):</b> Not determined.                  |                 |
| · <b>Viscosity:</b>  |                 |
| <b>Dynamic:</b>  | Not determined. |
| <b>Kinematic:</b>  | Not determined. |
| · <b>Solvent content:</b>  |                 |
| <b>Organic solvents:</b>   | 4.2 %           |
| <b>VOC content:</b>  | 89.68 %         |
| · <b>Other information</b> 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.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.


## 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:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |                                     |   |
|-------------------------------------|---|
| · <b>UN-Number</b>                  |   |
| · <b>DOT, ADR, IMDG, IATA</b>       | UN1954  |
| · <b>UN proper shipping name</b>    |   |
| · <b>DOT, ADR</b>                   | Compressed gas, flammable, n.o.s. (Methane, compressed gas, Hydrogen, compressed)   |
| · <b>IMDG, IATA</b>                 | COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, compressed gas, HYDROGEN, COMPRESSED)   |
| · <b>Transport hazard class(es)</b> |   |
| · <b>DOT</b>                        |   |
|                                     |  |
| · <b>Class</b>                      | 2.1   |

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· **Label** 2.1

· **ADR, IMDG, IATA**



· **Class** 2.1

· **Label** 2.1

· **Packing group**

· **DOT, ADR** Void

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Not applicable.

· **EMS Number:** F-D,S-U

· **Stowage Category** D

· **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:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: forbidden

· **Remarks:** Not applicable (gas).

· **ADR**

· **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity

· **UN "Model Regulation":** UN 1954 COMPRESSED GAS, FLAMMABLE, N.O.S. (METHANE, COMPRESSED GAS, HYDROGEN, COMPRESSED), 2.1

## 15 Regulatory information

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

74-82-8	methane	Flam. Gas 1, H220 Press. Gas, H280	81.43%
1333-74-0	hydrogen	Flam. Gas 1, H220 Press. Gas, H280	5.0%
7727-37-9	nitrogen	Press. Gas, H281	3.9%

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

All ingredients are listed.

74-82-8	methane
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**Trade name: STD-NGA CAL BLEND with/without Syringe Adapter**

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1333-74-0	hydrogen
7727-37-9	nitrogen
74-84-0	ethane
74-98-6	propane
7440-37-1	argon
75-28-5	isobutane
106-97-8	butane
78-78-4	isopentane
109-66-0	pentane
124-38-9	carbon dioxide
75-83-2	2,2-dimethylbutane

- **TSCA new (21st Century Act) (Substances not listed)**
- **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **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:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

- **Hazard pictograms** GHS01

- **Signal word** Danger

- **Hazard statements**

H200 Unstable explosive.

- **Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Wear personal protective equipment/face protection.

P372 Explosion risk in case of fire.

P373 DO NOT fight fire when fire reaches explosives.

P380 Evacuate area.

P401 Store in accordance with local/regional/national/international regulations.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

### Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer shall not be held liable for any damage resulting from handling or from contact with the product.

### · Contact:

With in the USA: 1-(800)-762-4000

Out side the USA: 1-(203)-712-8488

### · Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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)

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

Unst. Expl.: Explosives – Unstable explosive

Flam. Gas 1: Flammable gases – Category 1

Press. Gas: Gases under pressure – Compressed gas

Press. Gas: Gases under pressure – Refrigerated liquefied gas

### · \* Data compared to the previous version altered.