

**1 Identification**

- **Product identifier**
- **Trade name:** STD - RGA Calibration Blend with/without adapter
- **Article number**  
N6107199  
N6107198
- **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.



Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 1 H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



Acute Tox. 4 H332 Harmful if inhaled.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS01, GHS07, GHS08
- **Signal word** Danger

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

1,3-butadiene buta-1,3-diene  
carbon monoxide

- **Hazard statements**

H200 Unstable explosive.

H332 Harmful if inhaled.

H340 May cause genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

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H372 Causes damage to organs through prolonged or repeated exposure.

**Precautionary statements**

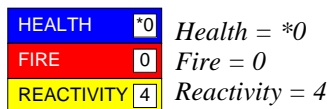
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Wear personal protective equipment/face protection.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P373 DO NOT fight 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)**



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



**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:**

7727-37-9	nitrogen Press. Gas, H281	36.2%
74-98-6	propane Flam. Gas 1, H220 Press. Gas, H280	6.0%
75-28-5	isobutane Flam. Gas 1, H220 Press. Gas, H280	5.0%
1333-74-0	hydrogen Flam. Gas 1, H220 Press. Gas, H280	5.0%
106-97-8	butane Flam. Gas 1, H220 Press. Gas, H280	4.0%

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		(Contd. of page 2)
74-84-0	ethane  Flam. Gas 1, H220  Press. Gas, H280	4.0%
624-64-6	(E)-but-2-ene  Flam. Gas 1, H220  Press. Gas, H280	3.0%
106-99-0	1,3-butadiene buta-1,3-diene  Flam. Gas 1, H220  Muta. 1B, H340; Carc. 1A, H350  Press. Gas, H280	3.0%
115-07-1	propene  Flam. Gas 1, H220  Press. Gas, H280	3.0%
124-38-9	carbon dioxide  Press. Gas, H280	3.0%
590-18-1	(Z)-but-2-ene  Flam. Gas 1, H220  Press. Gas, H280	2.0%
106-98-9	but-1-ene  Flam. Gas 1, H220  Press. Gas, H280	2.0%
109-66-0	pentane  Flam. Liq. 2, H225  Asp. Tox. 1, H304  STOT SE 3, H336	2.0%
74-85-1	ethylene  Flam. Gas 1, H220  STOT SE 3, H336  Press. Gas, H280	2.0%
463-49-0	allene  Flam. Liq. 1, H224  Press. Gas, H280	1.0%
74-86-2	acetylene  Flam. Gas 1, H220  Press. Gas, H280	1.0%
78-78-4	isopentane  Flam. Liq. 1, H224  Asp. Tox. 1, H304  STOT SE 3, H336	1.0%
115-11-7	2-methylpropene  Flam. Gas 1, H220  Press. Gas, H280	1.0%
7440-37-1	argon  Press. Gas, H281	1.0%

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630-08-0	carbon monoxide  Flam. Gas 1, H220  Acute Tox. 3, H331  Repr. 1A, H360; STOT RE 1, H372 Press. Gas, H280	1.0%
110-54-3	n-hexane  Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	0.1%
<b>· Additional Components</b>		
627-20-3	(Z)-pent-2-ene  Flam. Liq. 2, H225	0.4%
109-67-1	pent-1-ene  Flam. Liq. 1, H224	0.4%
513-35-9	2-methylbut-2-ene  Flam. Liq. 1, H224  Acute Tox. 3, H301	0.2%
646-04-8	trans-pent-2-ene  Flam. Liq. 1, H224	0.2%

#### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Generally the product does not irritate the skin.

· **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.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

#### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** Mouth respiratory protective device.

#### 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:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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- **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:**

7727-37-9	nitrogen	7.96E+05 ppm
74-98-6	propane	5500* ppm
75-28-5	isobutane	5500* ppm
1333-74-0	hydrogen	65000*** ppm
106-97-8	butane	5500* ppm
74-84-0	ethane	65000*** ppm
624-64-6	(E)-but-2-ene	750 ppm
106-99-0	1,3-butadiene buta-1,3-diene	670 ppm
115-07-1	propene	1,500 ppm
590-18-1	(Z)-but-2-ene	750 ppm
106-98-9	but-1-ene	750 ppm
109-66-0	pentane	3000* ppm
74-85-1	ethylene	600 ppm
463-49-0	allene	230 ppm
74-86-2	acetylene	65000*** ppm
78-78-4	isopentane	3000* ppm
115-11-7	2-methylpropene	750 ppm
7440-37-1	argon	65,000 ppm
630-08-0	carbon monoxide	75 ppm
109-67-1	pent-1-ene	120 ppm
513-35-9	2-methylbut-2-ene	4.2 ppm
110-54-3	n-hexane	260 ppm

- **PAC-2:**

7727-37-9	nitrogen	8.32E+05 ppm
74-98-6	propane	17000** ppm
75-28-5	isobutane	17000** ppm
1333-74-0	hydrogen	230000*** ppm
106-97-8	butane	17000** ppm
74-84-0	ethane	230000*** ppm
624-64-6	(E)-but-2-ene	2400* ppm
106-99-0	1,3-butadiene buta-1,3-diene	5300* ppm
115-07-1	propene	2800* ppm
590-18-1	(Z)-but-2-ene	2200* ppm
106-98-9	but-1-ene	2900* ppm
109-66-0	pentane	33000*** ppm
74-85-1	ethylene	6600* ppm
463-49-0	allene	2,500 ppm
74-86-2	acetylene	230000*** ppm

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78-78-4	isopentane	33000*** ppm
115-11-7	2-methylpropene	2500* ppm
7440-37-1	argon	2.30E+05 ppm
630-08-0	carbon monoxide	83 ppm
109-67-1	pent-1-ene	1,300 ppm
513-35-9	2-methylbut-2-ene	46 ppm
110-54-3	n-hexane	2900* ppm

**· PAC-3:**

7727-37-9	nitrogen	8.69E+05 ppm
74-98-6	propane	33000*** ppm
75-28-5	isobutane	53000*** ppm
1333-74-0	hydrogen	400000*** ppm
106-97-8	butane	53000*** ppm
74-84-0	ethane	400000*** ppm
624-64-6	(E)-but-2-ene	14000** ppm
106-99-0	1,3-butadiene buta-1,3-diene	22000*** ppm
115-07-1	propene	17000** ppm
590-18-1	(Z)-but-2-ene	13000** ppm
106-98-9	but-1-ene	17000*** ppm
109-66-0	pentane	200000*** ppm
74-85-1	ethylene	40000*** ppm
463-49-0	allene	15,000 ppm
74-86-2	acetylene	400000*** ppm
78-78-4	isopentane	200000*** ppm
115-11-7	2-methylpropene	11000** ppm
7440-37-1	argon	4.00E+05 ppm
630-08-0	carbon monoxide	330 ppm
109-67-1	pent-1-ene	7700** ppm
513-35-9	2-methylbut-2-ene	280 ppm
110-54-3	n-hexane	8600** ppm

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
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.

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- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
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:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the remaining constituent has no known exposure limits.

<b>7727-37-9 nitrogen</b>	
TLV	withdrawn TLV, see App. F; simple asphyxiant
<b>74-98-6 propane</b>	
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
<b>75-28-5 isobutane</b>	
TLV	Short-term value: 2370 mg/m <sup>3</sup> , 1000 ppm (EX)
<b>1333-74-0 hydrogen</b>	
TLV	TLV withdrawn-see App. F; simple asphyxiant; (D, EX)
<b>106-97-8 butane</b>	
REL	Long-term value: 1900 mg/m <sup>3</sup> , 800 ppm
TLV	Short-term value: 2370 mg/m <sup>3</sup> , 1000 ppm (EX)
<b>74-84-0 ethane</b>	
TLV	Refer to Appendix F in TLVs & BEIs book; (D, EX)
<b>624-64-6 (E)-but-2-ene</b>	
TLV	Long-term value: 574 mg/m <sup>3</sup> , 250 ppm
<b>106-99-0 1,3-butadiene buta-1,3-diene</b>	
PEL	Short-term value: 11 mg/m <sup>3</sup> , 5 ppm Long-term value: 2.21 mg/m <sup>3</sup> , 1 ppm see 29 CFR 1910.1051; 29 CFR 1910.19(1)
REL	See Pocket Guide App. A
TLV	Long-term value: 4.4 mg/m <sup>3</sup> , 2 ppm
<b>115-07-1 propene</b>	
TLV	Long-term value: 860 mg/m <sup>3</sup> , 500 ppm
<b>124-38-9 carbon dioxide</b>	
PEL	Long-term value: 9000 mg/m <sup>3</sup> , 5000 ppm
REL	Short-term value: 54,000 mg/m <sup>3</sup> , 30,000 ppm Long-term value: 9000 mg/m <sup>3</sup> , 5000 ppm

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TLV	Short-term value: 54,000 mg/m <sup>3</sup> , 30,000 ppm Long-term value: 9000 mg/m <sup>3</sup> , 5000 ppm
<b>590-18-1 (Z)-but-2-ene</b>	
TLV	Long-term value: 574 mg/m <sup>3</sup> , 250 ppm
<b>106-98-9 but-1-ene</b>	
TLV	Long-term value: 574 mg/m <sup>3</sup> , 250 ppm
<b>109-66-0 pentane</b>	
PEL	Long-term value: 2950 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 350 mg/m <sup>3</sup> , 120 ppm Ceiling limit value: 1800* mg/m <sup>3</sup> , 610* ppm *15-min
TLV	Long-term value: 2950 mg/m <sup>3</sup> , 1000 ppm
<b>74-85-1 ethylene</b>	
TLV	Long-term value: 230 mg/m <sup>3</sup> , 200 ppm
<b>74-86-2 acetylene</b>	
REL	Ceiling limit value: 2662 mg/m <sup>3</sup> , 2500 ppm
TLV	Doc. withdrawn, see App. F, TLVs and BEIs book
<b>78-78-4 isopentane</b>	
PEL	Long-term value: 2950 mg/m <sup>3</sup> , 1000 ppm
TLV	Long-term value: 2950 mg/m <sup>3</sup> , 1000 ppm
<b>115-11-7 2-methylpropene</b>	
TLV	Long-term value: 574 mg/m <sup>3</sup> , 250 ppm
<b>7440-37-1 argon</b>	
TLV	see App. F, Simple asphyxiant
<b>630-08-0 carbon monoxide</b>	
PEL	Long-term value: 55 mg/m <sup>3</sup> , 50 ppm
REL	Long-term value: 40 mg/m <sup>3</sup> , 35 ppm Ceiling limit value: 229 mg/m <sup>3</sup> , 200 ppm
TLV	Long-term value: 29 mg/m <sup>3</sup> , 25 ppm BEI
<b>110-54-3 n-hexane</b>	
PEL	Long-term value: 1800 mg/m <sup>3</sup> , 500 ppm
REL	Long-term value: 180 mg/m <sup>3</sup> , 50 ppm
TLV	Long-term value: 176 mg/m <sup>3</sup> , 50 ppm Skin; BEI

**· Ingredients with biological limit values:**

**106-99-0 1,3-butadiene buta-1,3-diene**

BEI	2.5 mg/L Medium: urine Time: end of shift Parameter: 1,2-Dihydroxy-4-(N-acetylcysteinyl)-butane (background, semi-quantitative)
	2.5 pmol/g hemoglobin Medium: blood Time: not critical Parameter: Mixture of N-1 and N-2-(hydroxybutenyl)valine hemoglobin adducts (semi-quantitative)

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**630-08-0 carbon monoxide**

**BEI** 3.5 % of hemoglobin  
 Medium: blood  
 Time: end of shift  
 Parameter: Carboxyhemoglobin (background, nonspecific)

20 ppm  
 Medium: end-exhaled air  
 Time: end of shift  
 Parameter: Carbon monoxide (background, nonspecific)

**110-54-3 n-hexane**

**BEI** 0.4 mg/L  
 Medium: urine  
 Time: end of shift at end of workweek  
 Parameter: 2.5-Hexanedione without hydrolysis

- **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.  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.
- **Breathing equipment:**  
 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.  
 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:**



Tightly sealed goggles or safety glasses

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

· Form:	Gaseous
· Color:	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: Not applicable.

· Flammability (solid, gaseous): Not determined.

· Ignition temperature: 470 °C (878 °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.

#### · Explosion limits:

· Lower:	4 Vol %
· Upper:	75.6 Vol %

· Vapor pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not applicable.

#### · Solubility in / Miscibility with

· Water: Not miscible or difficult to mix.

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

#### · Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

#### · Solvent content:

· Organic solvents:	13.1 %
· VOC content:	22.10 %

· 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.

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- **Incompatible materials:** No further relevant information available.
- **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:**

**106-99-0 1,3-butadiene buta-1,3-diene**

Oral	LD50	5,480 mg/kg (rat)
Inhalative	LC50/4 h	285 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** No 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:  
Harmful  
The product can cause inheritable damage.

- **Carcinogenic categories**

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

106-99-0	1,3-butadiene buta-1,3-diene	1
115-07-1	propene	3
74-85-1	ethylene	3

- **NTP (National Toxicology Program)**

106-99-0	1,3-butadiene buta-1,3-diene	K
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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 product to reach ground water, water course or sewage system, even in small quantities.  
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.

USA

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### 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>  · <b>IMDG, IATA</b>	Compressed gas, flammable, n.o.s. (Hydrogen, compressed, Propane) COMPRESSED GAS, FLAMMABLE, N.O.S. (HYDROGEN, COMPRESSED, PROPANE)
· <b>Transport hazard class(es)</b> · <b>DOT</b>	
	
· <b>Class</b> · <b>Label</b>	2.1 2.1
· <b>ADR, IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	2.1 2.1
· <b>Packing group</b> · <b>ADR</b>	Void
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b> · <b>EMS Number:</b> · <b>Stowage Category</b> · <b>Stowage Code</b>	Not applicable. F-D,S-U D SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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**· Transport/Additional information:**




**· DOT**

**· Remarks:** Not applicable (gas).

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

**15 Regulatory information**

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

7727-37-9	nitrogen	 Press. Gas, H281	36.2%
74-98-6	propane	 Flam. Gas 1, H220 Press. Gas, H280	6.0%
75-28-5	isobutane	 Flam. Gas 1, H220 Press. Gas, H280	5.0%

**· Sara**

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

None of the ingredients is listed.

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

106-99-0	1,3-butadiene buta-1,3-diene
115-07-1	propene
74-85-1	ethylene
110-54-3	n-hexane

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

All ingredients are listed.

7727-37-9	nitrogen
74-98-6	propane
75-28-5	isobutane
1333-74-0	hydrogen
106-97-8	butane
74-84-0	ethane
624-64-6	(E)-but-2-ene
106-99-0	1,3-butadiene buta-1,3-diene
115-07-1	propene
124-38-9	carbon dioxide
590-18-1	(Z)-but-2-ene
106-98-9	but-1-ene
109-66-0	pentane
74-85-1	ethylene
463-49-0	allene
74-86-2	acetylene
78-78-4	isopentane
115-11-7	2-methylpropene
7440-37-1	argon

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630-08-0	carbon monoxide
627-20-3	(Z)-pent-2-ene
109-67-1	pent-1-ene
513-35-9	2-methylbut-2-ene
646-04-8	trans-pent-2-ene
110-54-3	n-hexane

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

· **Chemicals known to cause cancer:**

106-99-0	1,3-butadiene buta-1,3-diene
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· **Chemicals known to cause reproductive toxicity for females:**

106-99-0	1,3-butadiene buta-1,3-diene
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· **Chemicals known to cause reproductive toxicity for males:**

106-99-0	1,3-butadiene buta-1,3-diene
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· **Chemicals known to cause developmental toxicity:**

106-99-0	1,3-butadiene buta-1,3-diene
630-08-0	carbon monoxide

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

106-99-0	1,3-butadiene buta-1,3-diene	CaH
110-54-3	n-hexane	II

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

106-99-0	1,3-butadiene buta-1,3-diene	A2
115-07-1	propene	A4
74-85-1	ethylene	A4
115-11-7	2-methylpropene	A4

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

106-99-0	1,3-butadiene buta-1,3-diene
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- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS01, GHS07, GHS08
- **Signal word** Danger

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

1,3-butadiene buta-1,3-diene  
carbon monoxide

· **Hazard statements**

H200 Unstable explosive.  
H332 Harmful if inhaled.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H360 May damage fertility or the unborn child.  
H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P281 Wear personal protective equipment/face protection.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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**Trade name: STD - RGA Calibration Blend with/without adapter**

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- 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.*

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**

*Carcinogenic hazardous material group III (dangerous).*

· **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.*

*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.*

· **Water hazard class:** Water hazard class 3 (Self-assessment): extremely 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)*

*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*

*Unst. Expl.: Explosives – Unstable explosive*

*Flam. Gas 1: Flammable gases – Category 1*

*Press. Gas: Gases under pressure – Compressed gas*

*Press. Gas: Gases under pressure – Liquefied gas*

*Press. Gas: Gases under pressure – Refrigerated liquefied gas*

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**Trade name: STD - RGA Calibration Blend with/without adapter**

(Contd. of page 15)

*Flam. Liq. 1: Flammable liquids – Category 1*  
*Flam. Liq. 2: Flammable liquids – Category 2*  
*Acute Tox. 3: Acute toxicity – Category 3*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Muta. 1B: Germ cell mutagenicity – Category 1B*  
*Carc. 1A: Carcinogenicity – Category 1A*  
*Repr. 1: Reproductive toxicity – Category 1*  
*Repr. 1A: Reproductive toxicity – Category 1A*  
*Repr. 2: Reproductive toxicity – Category 2*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*  
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*  
*Asp. Tox. 1: Aspiration hazard – Category 1*

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

USA