



# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Trade name or designation of the mixture LPS® QB Duster  
Registration number -  
Synonyms None.  
Part Number 05710, M05710  
Issue date 13-June-2013  
Version number 01

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses A nonflammable duster for removing contaminants, dirt, dust and other soils.  
Uses advised against None known.

### 1.3. Details of the supplier of the safety data sheet

Supplier Geocel Limited  
Company name Western Wood Way, Langage Science Park, Plympton,  
Address Plymouth, PL7 5BG  
United Kingdom  
Telephone +44 (0)1752 202060 / +44 (0)1752 334384  
In Case of Emergency +001 703-527-3887  
Manufacturer  
Company name LPS Laboratories, a division of Illinois Tool Works, Inc.  
Address 4647 Hugh Howell Rd., Tucker, GA 30084 (U.S.A.)  
Website <http://www.lpslabs.com>  
e-mail [sds@lpslabs.com](mailto:sds@lpslabs.com)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification R5

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Physical hazards

Gases under pressure Compressed gas H280 - Contains gas under pressure; may explode if heated.

#### Hazard summary

**Physical hazards** Heating may cause an explosion.  
**Health hazards** Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.  
**Environmental hazards** Not classified for hazards to the environment.  
**Specific hazards** Heating may cause an explosion. Irritating to eyes, respiratory system and skin. May cause central nervous system effects.  
**Main symptoms** Irritating to eyes, respiratory system and skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Persons with impaired cardiovascular function, heart disease or compromised heart function should avoid exposure. Inhalation of very high concentrations may result in cardiac arrhythmia.

### 2.2. Label elements

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Hazard pictograms**



**Signal word**

Warning

**Hazard statements**

H280

Contains gas under pressure; may explode if heated.

**Precautionary statements**

**Prevention**

Not assigned.

**Response**

Not assigned.

**Storage**

P410 + P403

Protect from sunlight. Store in a well-ventilated place.

**Disposal**

P501

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

**Supplemental label information** Not applicable.

**2.3. Other hazards** Not assigned.

### **SECTION 3: Composition/information on ingredients**

#### **3.2. Mixtures**

The components are not hazardous or are below required disclosure limits.

### **SECTION 4: First aid measures**

**General information** If you feel unwell, seek medical advice (show the label where possible).

#### **4.1. Description of first aid measures**

**Inhalation**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist. DO NOT give adrenaline, epinephrine or similar drugs following exposure to this product.

**Skin contact**

Wash off with warm water. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Get medical attention if irritation develops and persists.

**Eye contact**

Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.

**Ingestion**

Not applicable.

#### **4.2. Most important symptoms and effects, both acute and delayed**

Irritant effects. May cause drowsiness or dizziness.

#### **4.3. Indication of any immediate medical attention and special treatment needed**

Provide general supportive measures and treat symptomatically.

### **SECTION 5: Firefighting measures**

**General fire hazards** No unusual fire or explosion hazards noted.

#### **5.1. Extinguishing media**

**Suitable extinguishing media**

Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

Contents under pressure. Pressurised container may explode when exposed to heat or flame.

#### **5.3. Advice for firefighters**

**Special protective equipment for firefighters**

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**Special fire fighting procedures**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Use a NIOSH/MSHA approved respirator if there is a risk of exposure at levels exceeding the exposure limits. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Refer to attached safety data sheets and/or instructions for use. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Dike far ahead of spill for later disposal. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13.

**6.4. Reference to other sections** Use personal protection recommended in Section 8 of the SDS. For waste disposal, see section 13.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Pressurised container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Avoid breathing gas. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wash hands thoroughly after handling.

**7.2. Conditions for safe storage, including any incompatibilities** Level 1 Aerosol.

Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Keep tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	MAK	4200 mg/m <sup>3</sup>
	STEL	1000 ppm
		16800 mg/m <sup>3</sup>
		4000 ppm

##### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	TWA	4200 mg/m <sup>3</sup>
		1000 ppm

##### Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	AGW	4200 mg/m <sup>3</sup>
		1000 ppm

##### Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	STEL	3000 mg/m <sup>3</sup>

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

Components	Type	Value
	TWA	750 ppm 2000 mg/m <sup>3</sup> 500 ppm

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	TWA	4200 mg/m <sup>3</sup>  1000 ppm

**Sweden. Occupational Exposure Limit Values**

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	STEL	3000 mg/m <sup>3</sup>
	TWA	750 ppm 2000 mg/m <sup>3</sup> 500 ppm

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	TWA	4200 mg/m <sup>3</sup>  1000 ppm

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value
ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup>  1000 ppm

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no-effect level (DNEL)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**8.2. Exposure controls**

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Not normally needed.

**Skin protection**

- **Hand protection** Use protective gloves made of: Neoprene. Wear cold insulating gloves.

- **Other** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Wear suitable protective clothing. Wear protective gloves. Normal work clothing (long sleeved shirts and long pants) is recommended.

**Respiratory protection** No personal respiratory protective equipment normally required. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

**Thermal hazards** Not applicable.

**Hygiene measures** Do not eat, drink or smoke when using the product. Do not get in eyes, on skin, on clothing. Wash hands after handling. Handle in accordance with good industrial hygiene and safety practices.

**Environmental exposure controls** Not available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Liquefied gas.
<b>Physical state</b>	Gas.
<b>Form</b>	Aerosol Liquefied gas.
<b>Colour</b>	Clear.Colorless
<b>Odour</b>	Ether-like.
<b>Odour threshold</b>	Not established.
<b>pH</b>	Not applicable.
<b>Melting point</b>	Not available.
<b>Initial boiling point and boiling range</b>	-26,4 °C (-15,52 °F)
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - lower (%) temperature</b>	None.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Flammability limit - upper (%) temperature</b>	None.
<b>Vapour pressure</b>	Not available. 4432 mm Hg @ 21,1°C
<b>Vapour density</b>	3,54
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	0,9 g/l @ 25°C
<b>Partition coefficient (n-octanol/water)</b>	> 1
<b>Auto-ignition temperature</b>	743 °C (1369,4 °F)
<b>Decomposition temperature</b>	> 370 °C (> 698 °F)
<b>Viscosity</b>	Not established.
<b>Explosive properties</b>	Not available.
<b>Oxidizing properties</b>	Not available.
<b>9.2. Other information</b>	
<b>Heat of combustion</b>	< 20 kJ/g
<b>Percent volatile</b>	100 %
<b>Specific gravity</b>	1,19 - 1,23 @ 20°C
<b>VOC (Weight %)</b>	0% per State & Federal Consumer Product Regulations

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Alkalies. Powdered metal. Magnesium. Aluminium. Zinc. Strong oxidising agents.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	Hazardous polymerisation does not occur.
<b>10.4. Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources.
<b>10.5. Incompatible materials</b>	Alkalies. Powdered metal. Magnesium. Aluminium. Zinc. Strong oxidising agents.
<b>10.6. Hazardous decomposition products</b>	Thermal decomposition may yield hydrogen fluoride, carbon monoxide, carbon dioxide and carbonyl halide.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Ingestion</b>	Based on available data, the classification criteria are not met.
<b>Inhalation</b>	Irritating to respiratory system.
<b>Skin contact</b>	May be irritating to the skin.
<b>Eye contact</b>	May be irritating to eyes.

**Symptoms** Irritant effects.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.
<b>Mixture versus substance information</b>	Not available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	Ecological injuries are not known or expected under normal use.
<b>12.2. Persistence and degradability</b>	Not inherently biodegradable.
<b>12.3. Bioaccumulative potential</b>	Not available.
<b>Partition coefficient n-octanol/water (log Kow)</b> > 1	
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	Not available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. UN number	UN3159
14.2. UN proper shipping name	1,1,1,2-tetrafluoroethane
14.3. Transport hazard class(es)	2.2
Subsidiary class(es)	-
14.4. Packing group	Not available.
14.5. Environmental hazards	No
Tunnel restriction code	D
Labels required	2.2
14.6. Special precautions for user	Not available.

### RID

14.1. UN number	UN3159
14.2. UN proper shipping name	1,1,1,2-tetrafluoroethane
14.3. Transport hazard class(es)	2.2
Subsidiary class(es)	-
14.4. Packing group	Not available.
14.5. Environmental hazards	No
Labels required	2.2
14.6. Special precautions for user	Not available.

### ADN

14.1. UN number	UN3159
14.2. UN proper shipping name	1,1,1,2-tetrafluoroethane
14.3. Transport hazard class(es)	2.2
Subsidiary class(es)	-
14.4. Packing group	Not available.
14.5. Environmental hazards	No
Labels required	2.2
14.6. Special precautions for user	Not available.

### IATA

14.1. UN number	UN3159
14.2. UN proper shipping name	1,1,1,2-tetrafluoroethane
14.3. Transport hazard class(es)	2.2
Subsidiary class(es)	-
14.4. Packing group	Not available.
14.5. Environmental hazards	Not available.
Labels required	Not available.
ERG code	2L
14.6. Special precautions for user	NOTE: Special Permit (DOT-SP 10232) copy required with shipping papers.

### IMDG

14.1. UN number	UN3159
14.2. UN proper shipping name	1,1,1,2-tetrafluoroethane
14.3. Transport hazard class(es)	2.2
Subsidiary class(es)	-
14.4. Packing group	Not available.
14.5. Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-C, S-V
14.6. Special precautions for user	Not available.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**  
**ADN; ADR; IATA; IMDG; RID**

This substance/mixture is not intended to be transported in bulk.



## **SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **EU regulations**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I**

Not listed.

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work**

Not regulated.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding**

Not regulated.

#### **Other EU regulations**

**Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances**

Not regulated.

**Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Not regulated.

**Directive 94/33/EC on the protection of young people at work**

Not regulated.

#### **Other regulations**

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

#### **National regulations**

Not available.

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.



## SECTION 16: Other information

<b>List of abbreviations</b>	Not available.
<b>References</b>	Not available.
<b>Information on evaluation method leading to the classification of mixture</b>	Not available.
<b>Full text of any statements or R-phrases and H-statements under Sections 2 to 15</b>	R5 Heating may cause an explosion.
<b>Revision information</b>	Product and Company Identification: Physical States SECTION 1: Identification of the substance/mixture and of the company/undertaking: Product use SECTION 2: Hazards identification: Classification according to Directive 67/548/EEC or 1999/45/EC SECTION 4: First aid measures: 4,2. Most important symptoms and effects, both acute and delayed SECTION 8: Exposure controls/personal protection: Thermal hazards SECTION 10: Stability and reactivity: 10,4. Conditions to avoid SECTION 11: Toxicological information: Acute toxicity Transport Information: Material Transportation Information Regulatory Information: United States GHS: Classification
<b>Training information</b>	Not available.
<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available.