

Blended Products Limited

SAFETY DATA SHEET



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

1.1. Product identifier

Name of the substance	Carbon dioxide
Identification number	-
Registration number	-
Synonyms	None.
Issue date	26-February-2016
Version number	01

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

Identified uses	General industrial, chemical, technical use
Uses advised against	None known

1.3. Details of the supplier of the safety data sheet

Company name	Blended Products Limited
Address	Plot11b Elsham Wold Industrial Estate Brigg, North Lincolnshire DN20 0SP UK
Telephone	01652 680555
Fax	
e-mail	sales@blendedproducts.co.uk
Website	www.blendedproducts.co.uk
1.4 Emergency telephone number	+44(0)1652 680555 (Please use 'Option 4' for 24hr chemical / stock emergency assistance)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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	Contents under pressure. Heat may cause the containers to explode. Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
----------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

2.2. Label elements

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

Contains: Carbon dioxide

Hazard pictograms



Signal word: Warning

Hazard statements

H280: Contains gas under pressure; may explode if heated.

Precautionary statements

Prevention: Observe good industrial hygiene practices.

Response	Wash hands after handling.
Storage	
P410 + P403	Protect from sunlight. Store in a well-ventilated place.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Supplemental label information	None.
2.3. Other hazards	Simple asphyxiant May displace oxygen and cause rapid suffocation. Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn").

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Carbon dioxide	100	124-38-9 204-696-9	-	-	#
Classification:	-				

List of abbreviations and symbols that may be used above

- #: This substance has been assigned Community workplace exposure limit(s).
- PBT: persistent, bioaccumulative and toxic substance.
- vPvB: very persistent and very bioaccumulative substance.
- M: M-factor

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

- Inhalation** Move to fresh air. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
- Skin contact** No adverse effects due to skin contact are expected.
In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Eye contact** No specific first aid measures noted.
Get medical attention if irritation develops and persists.
- Ingestion** Not likely, due to the form of the product.

4.2. Most important symptoms and effects, both acute and delayed Convulsions. Headache. 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 Non-combustible, substance itself does not burn.
Contents under pressure. Pressurised container may explode when exposed to heat or flame.

5.1. Extinguishing media

- Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

- Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.

For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Isolate area until gas has dispersed. Ensure adequate ventilation. Stop the flow of material, if this is without risk. The liquid changes instantly into a 'fine solid snow', which evaporates quickly. The vapour is heavier than air and can accumulate in dangerous concentrations in pits, depressions etc.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Only experienced and properly trained persons should handle compressed gases/cryogenic liquids. Please refer to Section 16 'Other Information' for full details. Do not use in areas without adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Purge air from system before introducing gas. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Cylinders should be stored in a purpose built compound which should be well ventilated, preferably in the open air. Observe all regulations and local requirements regarding storage of cylinders. Cylinders should not be stored in conditions likely to encourage corrosion. Cylinders should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Cylinder valve guards or caps should be in place. Keep cylinders tightly closed in a cool well-ventilated place below 45°C and out of direct sunlight. Smoking should be prohibited within storage areas and while handling product or cylinders. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

The specified uses for this material are shown in section 1 of this document

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	27400 mg/m ³
	TWA	15000 ppm
		9150 mg/m ³ 5000 ppm

EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents.

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³ 5000 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.

Individual protection measures, such as personal protective equipment

General information Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Do not get in eyes. Wear safety glasses with side shields (or goggles).
Face shield over safety glasses is recommended during cylinder connection.

Skin protection

- Hand protection Suitable gloves can be recommended by the glove supplier. (EN374) Wear cold insulating gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Replace damaged gloves.

- Other Wear suitable protective clothing and heavy duty work shoes

Respiratory protection Under normal conditions, respirator is not normally required.
In case of insufficient ventilation, wear suitable respiratory equipment. Wear positive pressure self-contained breathing apparatus (SCBA).

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Gas Liquid.
Form Compressed gas.
Colour Colourless.

Odour Not significant.

Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	-56.6 °C (-69.88 °F)
Initial boiling point and boiling range	-78.5 °C (-109.3 °F) @ 1013 Pa
Flash point	Not applicable.
Evaporation rate	Not determined
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Vapour pressure	57.3 bar @ 20°C
Vapour density	1.519
Relative density	0.82 (Water = 1)
Solubility(ies)	
Solubility (water)	2 g/l Sparingly soluble, dependent on pressure.
Solubility (other)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	
Density	0.002 g/cm ³ as vapour @ 21°C 1.02 g/cm ³ as liquified gas

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Heat. Contact with incompatible materials.
10.5. Incompatible materials	Aluminium.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Prolonged inhalation may be harmful. Concentrations of 10% CO ₂ or more can produce unconsciousness or death. Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained.
Skin contact	No adverse effects due to skin contact are expected. Contact with liquified gas might cause frostbites, in some cases with tissue damage.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms	<p>Convulsions. Dizziness. Headache.</p> <p>Carbon dioxide is physiologically active, affecting circulation and breathing. At concentrations between 2 and 10%, carbon dioxide can cause nausea, dizziness headache, mental confusion, increased blood pressure and respiratory rate.</p> <p>High concentrations may cause asphyxiation. Victim may not be aware of asphyxiation.</p> <p>Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.</p>
-----------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

11.1. Information on toxicological effects

Acute toxicity	No data available.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Due to partial or complete lack of data the classification is not possible.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Not likely, due to the form of the product.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
12.2. Persistence and degradability	<p>Not inherently biodegradable. Discharges to the aquatic environment will not result in aqueous contamination. The product will rapidly disperse to the atmosphere.</p> <p>Carbon dioxide is a very long-lived greenhouse gas and is the reference against which all other greenhouse gases are judged.</p> <p>Atmospheric lifetime is >500 years</p>
12.3. Bioaccumulative potential	Does not bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	Not applicable.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	Not applicable.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	<p>Carbon dioxide is recognised as a 'greenhouse gas' and is attributed to global warming.</p> <p>No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption) are expected from this component.</p>

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	<p>Return unused or unwanted cylinders to the supplier. 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).</p> <p>Dispose of in accordance with local regulations.</p>
Contaminated packaging	Empty or unwanted cylinders should be returned to the supplier Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN1013
14.2. UN proper shipping name	Carbon dioxide
14.3. Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Hazard No. (ADR)	20
Tunnel restriction code	C/E
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1013
14.2. UN proper shipping name	Carbon dioxide
14.3. Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2 (+13)
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1013
14.2. UN proper shipping name	Carbon dioxide
14.3. Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1013
14.2. UN proper shipping name	Carbon dioxide
14.3. Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
ERG Code	2L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

14.1. UN number	UN1013
14.2. UN proper shipping name	Carbon dioxide
14.3. Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
14.4. Packing group	Not applicable.
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-C, S-V
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

ADN; ADR; IATA; IMDG; RID



General information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

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 and II, as amended

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 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(10) 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 Annex XVII Substances subject to restriction on marketing and use**

Not regulated.

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 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 2012/18/EU on major accident hazards involving dangerous substances**

Not listed.

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

Always applicable.

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

Not listed.

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, as amended.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

SECTION 16: Other information**List of abbreviations**

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

Full text of any H-statements not written out in full under Sections 2 to 15

None.

Revision information

None.

Training information

Only trained persons should handle compressed gases.
Observe all regulations and local requirements regarding the storage of containers.
Do not remove or deface labels provided by the supplier for the identification of the container contents.
Ascertain the identity of the gas before using it.
Know and understand the properties and hazards associated with each gas before using it.
When doubt exists as to the correct handling procedure for a particular gas contact the supplier.
Follow training instructions when handling this material.

Other information**BLENDED PRODUCTS LTD GENERAL INFORMATION FOR THE SAFE HANDLING OF COMPRESSED GAS**

HANDLING: Wear stout gloves. Never lift a container by the cap or guard unless the supplier states it is designed for that purpose. Use a trolley or other suitable device or technique for transporting heavy containers, even for a short distance. Where necessary wear suitable eye and face protection . The choice between safety glasses, chemical goggles, or full face shield will depend on the pressure and nature of the gas being used. Where necessary for toxic gases see that self-contained positive pressure breathing apparatus or full face air line respirator is available in the vicinity of the working area. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with a lower pressure rating than that of the container. Ascertain that all electrical systems in the area are suitable for service with each gas. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 45°C. Never re-compress a gas mixture without consulting the supplier. Never attempt to transfer gases from one container to another. Do not use containers as rollers or supports, or for any other purpose than to contain the gas as supplied. Never permit oil, grease or other readily combustible substances to come into contact with valves of containers containing oxygen or other oxidants. Keep container valve outlets clean and free from contaminants, particularly oil and water. Do not subject containers to abnormal mechanical shocks which may cause damage to their valves or safety devices. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Close the container valve whenever gas is not required even if the container is still connected to the equipment.

(Continued)

STORAGE: Containers should be stored in a well ventilated area. Some gases will require a purpose built area. Store containers in a location free from fire risk and away from sources of heat and ignition. Designation as a no smoking area may be desirable. Gas containers should be segregated in the storage area according to the various categories. The storage area should be kept clear and access should be restricted to authorized persons only , the area should be clearly marked as a storage area and appropriate hazard warning signs displayed (Flammable Toxic etc.). The amount of flammable or toxic gases should be kept to a minimum. Flammable gases should be stored away from other combustible materials. Containers held in storage should be periodically checked for general condition and leakage. Containers in storage should be properly secured to prevent toppling or rolling . Vertical storage is recommended where the container is designed for this. Container valves should be tightly closed and where appropriate, valve outlets should be capped or plugged. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Store full and empty containers separately and arrange full containers so that the oldest stock is used first.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.
Blended Products Limited cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.