BOC
A Linde company

Food safety information

Contents

Food-grade gases are an effective and natural way of meeting rising demand for quality, variety and freshness in the food industry. Increasingly, consumers are looking for low or zero-additive alternatives to conventional preservation techniques.

Regardless of whether you operate a large food manufacturing facility and airline or a catering company, we are the partner of choice if premium quality, reliability and expert advice are important for your product and you.

Accreditation

As the leading supplier of industrial, food, medical and special gases in the South Pacific, we aim to ensure the highest levels of quality in everything we do. BOC aims to continuously improve the quality of its products, services and customer experience. At the same time we strive to maintain a high level of safety and environmental protection.

For these reasons we have introduced an integrated management system covering all elements of quality, safety, health and environmental processes and procedures in order to provide effective and efficient control of all our business activities. As part of a global group of companies, the same systems are in use throughout Linde worldwide, and their deployment helps us to achieve our HSE and quality policies.

The integrated management system has been developed to ensure compliance with all legal, contracted and elected HSE and quality management system elements including the Quality Management System standard ISO 9001:2015.

BOC's quality management system is audited by SAI Global allowing us to confirm the robustness of our systems. A multi-site certificate against the ISO 9001 standard covers our gas manufacturing, packaging and distribution activities as well as our front line Customer Service Centres.

Quality system procedures

Non-conforming product

Procedures exist for the correct processing and disposal of non-conforming products. The non-conformance is logged in an incident management system to ensure root cause is identified and corrective actions put in place. In the event of a product recall or withdrawal, traceability is provided to the individual cylinder allowing BOC to identify any affected containers.

Customer complaints are investigated through the same system to identify root cause in the case of a valid complaint.

Download BOC's latest ISO 9001:2015 Accreditation Certificates

Scan the QR code or go to
boc.com.au/ISO9001Certificates

Food safety Australia and New Zealand

Identity and purity

Section 1.1.1—15(1): Food additives, processing aids, nutritive substances and novel foods must comply with any relevant specification set out in Schedule 3.

Schedule 3 (identity and purity) Specification listings for FSANZ compliance include:

Primary sources (Subsection 2)	Secondary sources (Subsection 3)
Combined Compendium of Food Additive Specifications (CCFAS)	British Pharmacopoeia Comission (BP)
Food and Agriculture Organisation of the United Nations (FAO)	United States Pharmacopoeia (USP)
United States Pharmacopeial Convention Food Chemicals Codex (FCC)	Code of Federal Regulations (CFR)
Comission Regulation (EU) No 231/2012. (CR231)	

If there is no specification listed in subsection 2 or subsection 3, the substance must not contain more than 2mg/kg lead, 1mg/kg arsenic, 1mg/kg cadmium or 1mg/kg mercury.

Schedule 20 (maximum residue limits)

This outlines the maximum residue limit, expressed in milligrams per kilogram, when used with specified foods.

Sulphur dioxide	
Blueberries	≤ 10 mg/kg
Logan, edible aril	≤ 10 mg/kg
Strawberry	≤ 30 mg/kg[1]
Table grapes	≤ 10 mg/kg

[1] Temporary maximum residue limit

Food standards code compliance

Section of the food standards code	Carbon dioxide	Sulphur dioxide	Oxygen	Nitrogen	Argon	Nitrous oxide
Standard 1.5.2 — Food produced using gene technology	-	-	-	-	-	-
Standard 4.5.1 — Wine production requirements (AU only)	-	-	-	-	-	+
Schedule 3 — Identity and purity	-	-	-	-	-	-
Schedule 20 — Maximum residue limits	-	-	-	-	-	-

(+) = Not compliant, (-) = Compliant, (?) = Unknown

Allergen status

Allergen (including products or derivatives thereof)	Carbon dioxide	Sulphur dioxide	Oxygen	Nitrogen	Argon	Nitrous oxide
Cereals containing gluten including wheat, rye, barley, oats, spelt, kamut or their hybridised strains	-	-	-	-	-	-
Crustaceans	-	-	-	-	-	-
Eggs	-	-	-	-	-	-
Fish	-	-	-	-	-	-
Peanuts	-	-	-	-	-	-
Soybeans	-	-	-	-	-	-
Dairy, including milk	-	-	-	-	-	-
Nuts including almonds, hazelnuts, walnuts, pecans, brazil nuts, pistachios, and macadamias	-	-	-	-	-	-
Celery	-	-	-	-	-	-
Mustard	-	-	-	-	-	-
Sesame seeds	-	-	-	-	-	-
Sulphites including sulphur dioxide	-	+	-	-	-	-
Lupin	-	-	-	-	-	-
Molluscs	-	-	-	-	-	-
Corn	-	-	-	-	-	-

(+) = Present, (-) = Not present, (?) = Unknown

Intolerant substances

Substance (including substances or derivatives thereof)	Carbon dioxide	Sulphur dioxide	Oxygen	Nitrogen	Argon	Nitrous oxide
Animal products	-	-	-	-	-	-
Monosodium glutamate (MSG)	-	-	-	-	-	-
Synthetic colours or flavours	-	-	-	-	-	-

(+) = Present, (-) = Not present, (?) = Unknown

Material origin

Origin	Carbon dioxide	Sulphur dioxide	Oxygen	Nitrogen	Argon	Nitrous oxide
Genetically Modified Organisms (GMO), or derivatives	-	-	-	-	-	-
Bovine Spongiform Encephalopathy (BSE)	-	-	-	-	-	-
Transmittable agents of animal spongiform encephalopathy	-	-	-	-	-	-
Treated by ionising radiation	-	-	-	-	-	-

(+) = Present, (-) = Not present, (?) = Unknown

Carbon dioxide

Composition

Component	Formula	Unit	Bulk 744 Food grade	750 Hospitality grade_	Packaged 082 Food grade
Carbon dioxide	CO_2	%	≥ 99.9	≥ 99.9	≥ 99.9
Moisture	H_2O	ppm	≤ 50	≤ 20	≤ 100
Oxygen	O_2	ppm	≤ 50	≤ 30	-
Total hydrocarbon as CH_4	-	ppm	≤ 50	≤ 50	-
Inerts	N_2 + Ar	ppm	≤ 100	≤ 100	-
Nitrogen oxides	NO_x	ppm	≤ 2.0	≤ 2.0	-
Sulphur dioxide	SO_2	ppm	-	≤ 1.0	-
Total other sulphur (H_2S, COS, mercaptans)	-	ppm	≤ 0.5	≤ 0.1	-
Total non-methane hydrocarbon as CH_4	-	ppm	-	≤ 20	-
Non-volatile organic residue	-	ppm(w)	-	≤ 5	-
Non-volatile residue	-	ppm(w)	-	≤ 10	-
Methanol	CH_3OH	ppm	-	≤ 10	-
Carbon monoxide	CO	ppm	≤ 5	≤ 5	-
Ammonia	NH_3	ppm	-	≤ 2.5	-
Hydrogen cyanide	HCN	ppm	-	Not detected	-
Phosphine	PH_3	ppm	-	≤ 0.3	-
Acetaldehyde	C_2H_4O	ppm	-	≤ 0.2	-
Total aromatic hydrocarbon (benzene/toluene)	-	ppm	-	0.02	-
Taste / odour / appearance in water	-	-	-	Nil	-
Odour and appearance of solid	-	-	-	Nil	-

Cylinder colour scheme

Nominal specification only.

Download BOC's latest FSSC:22000 and HACCP Accreditation Certificates

Scan the QR code or go to
boc.com.au/HACCPCertificates
boc.com.au/FSSCCertificates

HACCP FSSC:22000

FSANZ
Allocated INS. No. 290
Defined as a food additive [See § 1.1.2—11(2)(a)(ii)]
Listed in schedule 16—2
Additive permitted at GMP

HACCP
BOC is audited by Bureau Veritas and holds HACCP certification for the storage, distribution, receipt, filling and holding of cylinders for carbon dioxide
→ Critical Control Points (CCP's) are identified and controlled
→ Standard operating procedures exist for all steps in the process

FSSC:22000
BOC is audited by SAI Global and holds FSSC:22000 certification for the production of liquid carbon dioxide.

Religious dietary acceptance
Carbon dioxide is produced by a variety of methods, including fermentation of organic substances. The gases produced are purified and tested to ensure no taste remains, however alcohols may be present during the manufacturing process. Carbon dioxide is generally regarded as organic.

Kosher status
Rav Shlomo Zalman Auerbak, zt"l paskens that carbon dioxide produced by *Chamets* fermentation is not *Chamets* and thereby permitted on *Pesach*. However, some choose to view this as *Chamets* and therefore may not be permissible on *Pesach*.

Halal status
Animal products are not used in any part of the process or production of carbon dioxide. Alcohols that may have been present in the manufacturing process are removed by purification however trace alcohols may remain.

Sulphur dioxide

Composition

Component	Formula	Unit	Packaged 172 Cylinders	173 Drums
Sulphur dioxide	SO_2	%(w)	≥ 99.9	≥ 99.9
Moisture	H_2O	ppm(w)	≤ 200	≤ 200
Acidity as sulphuric acid (H_2SO_4)	-	ppm(w)	≤ 50	≤ 50
Non-volatile residue	-	ppm(w)	≤ 200	≤ 200
Colour	-	-	Clear	Clear
Selenium	Se	mg/kg	≤ 20	≤ 20
Lead	Pb	mg/kg	≤ 5	≤ 5
Cylinder colour scheme				

Nominal specification only.

FSANZ

Allocated INS. No. 220
Defined as a food additive [See § 1.1.2—11(2)(a)(i)]
Listed in schedule 15—5
Additive permitted at 350mg/kg maximum residue level

Religious dietary acceptance

Sulphur dioxide is produced by burning sulphur in an oxygen atmosphere. The process does not contain any animal products or come into contact with organic substances.

Kosher status

Sulphur dioxide does not come into contact with any non-kosher substances in the course of production and packaging and therefore meets kosher (Mehadrin) requirements for all year including Passover days. The manufacturing process is certified Kosher however repackaging is not covered by this certification.

Halal status

Animal products and/or intoxicants are not used in any part of the process or production of sulphur dioxide.

Oxygen

Composition

Component	Formula	Unit	Bulk 669 Food grade	672 Aquaculture grade	Packaged 025 Food fresh
Oxygen	O_2	%	≥ 99.5	≥ 99.5	≥ 99.5
Moisture	H_2O	ppm	≤ 4	≤ 4	≤ 67
Argon	Ar	ppm	≤ 5000	≤ 5000	≤ 5000
Carbon dioxide	CO_2	ppm	≤ 300	-	≤ 300
Carbon monoxide	CO	ppm	5	-	-

Cylinder colour scheme

Nominal specification only.

FSANZ

Allocated INS. No. 948
Defined as a processing aid [See § 1.1.2—13(3)(a)]
Listed in schedule 18—2

Religious dietary acceptance

Oxygen is produced by the cryogenic distillation of liquefied atmospheric air.

Kosher status

Oxygen does not come into contact with any non-kosher substances in the course of production and packaging and therefore meets kosher (Mehadrin) requirements for all year including Passover days. BOC does not hold kosher certification.

Halal status

Animal products and/or intoxicants are not used in any part of the process or production of oxygen.

Nitrogen

Composition

Component	Formula	Unit	Bulk 714 Food freezing	715 Food packaging	Packaged 034 High Purity / Food
Nitrogen	N_2	%	≥ 99.5	≥ 99.99	≥ 99.995
Oxygen	O_2	ppm	≤ 5000	≤ 10	≤ 10
Moisture	H_2O	ppm	≤ 10	≤ 4	≤8
Carbon monoxide	CO	ppm	-	-	≤ 10
Traces of non-specified constituents of air including rare gases	-	-	Balance	Balance	-
Cylinder colour scheme					

Nominal specification only.

FSANZ

Allocated INS. No. 941
Defined as a food additive [See § 1.1.2—11(2)(a)(ii)]
Listed in schedule 16—2
Additive permitted at GMP

Religious dietary acceptance

Nitrogen is produced by the cryogenic distillation of liquefied atmospheric air.

Kosher status

Nitrogen does not come into contact with any non-kosher substances in the course of production and packaging and therefore meets kosher (Mehadrin) requirements for all year including Passover days. BOC does not hold kosher certification.

Halal status

Animal products and/or intoxicants are not used in any part of the process or production of nitrogen.

Argon

Composition

Component	Formula	Unit	Packaged 074 VinAr	Packaged 091 Food fresh
Argon	Ar	%	≥ 99.995	≥ 99.997
Oxygen	O_2	ppm	≤ 10	≤ 5
Nitrogen	N_2	ppm	≤ 25	≤ 15
Moisture	H_2O	ppm	≤ 15	≤ 10
Cylinder colour scheme				

Nominal specification only.

FSANZ

Allocated INS. No. 938
Defined as a processing aid [See § 1.1.2—13(3)(a)]
Listed in schedule 18—2

Religious dietary acceptance

Argon is produced by the cryogenic distillation of liquefied atmospheric air.

Kosher status

Argon does not come into contact with any non-kosher substances in the course of production and packaging and therefore meets kosher (Mehadrin) requirements for all year including Passover days. BOC does not hold kosher certification.

Halal status

Animal products and/or intoxicants are not used in any part of the process or production of argon.

Nitrous oxide

Composition

Component	Formula	Unit	Packaged 620 Nitrosol
Nitrous oxide	N_2O	%	≥ 98%
Total oxides of nitrogen (NO + NO_2)	O_2	ppm	≤ 2ppm
Carbon dioxide	CO_2	ppm	≤ 300ppm
Carbon monoxide	CO	ppm	≤ 5ppm
Moisture	H_2O	ppm	≤ 67ppm

Cylinder colour scheme

Nominal specification only.

FSANZ

Allocated INS. No. 942
Defined as a food additive [See § 1.1.2—11(2)(a)(ii)]
Listed in schedule 16—2
Additive permitted at GMP

Religious dietary acceptance

Nitrous oxide is produced via the decomposition of ammonium nitrate.

Kosher status

Nitrous oxide does not come into contact with any non-kosher substances in the course of production and packaging and therefore meets kosher (Mehadrin) requirements for all year including Passover days. BOC does not hold kosher certification.

Halal status

Animal products and/or intoxicants are not used in any part of the process or production of nitrous oxide.

Mixture specifications

BOC's range of CELLAMIX®, MULTIMIX® and Food Fresh® gases are produced using a combination of food grade raw materials. The gases are mixed using the latest technology, ensuring you get a consistent mixture each and every time.

Composition

Component	Formula	Unit	Packaged 037 Multimix 30	217 Food fresh 30	085 Cellamix 40	098 Cellamix 55	097 Cellamix 75
Carbon dioxide	CO_2	%	30 ± 2%	30 ± 2%	40 ± 2%	55 ± 3%	75 ± 5%
Nitrogen	N_2	%	Balance	Balance	Balance	Balance	Balance
Cylinder colour scheme	-	-					
Safety data sheet	-	-	SDS # 119	SDS # 182	SDS # 130	SDS # 130	SDS # 130

Nominal specification only.

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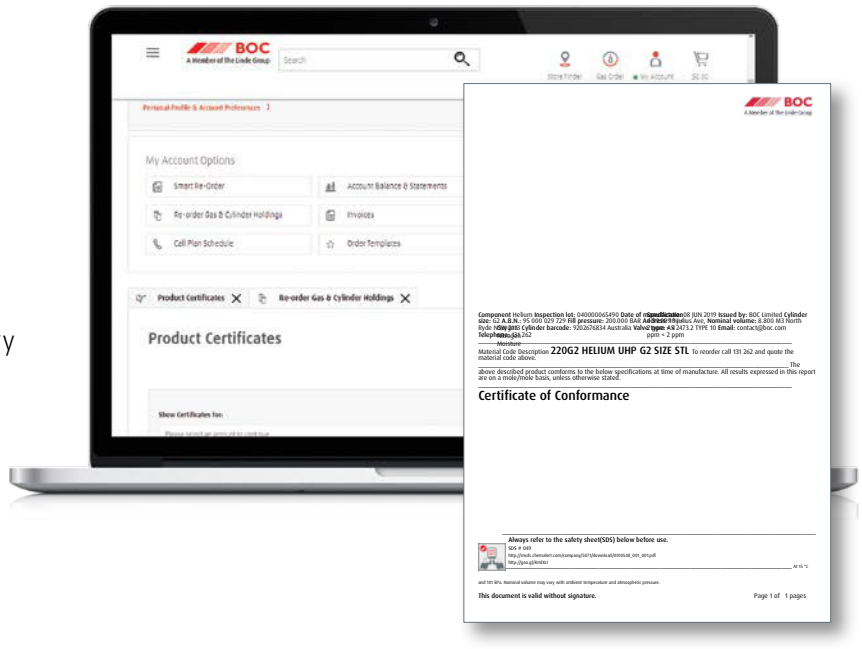

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