

Dry Ice

Standard Price List Republic of Ireland and Northern Ireland



OFFICE OPENING HOURS

Monday to Friday 08:00 to 17:00

Standard delivery - Monday to Friday (Excluding Bank Holidays)

Working example: Order placed before 12 noon working day for next working day delivery.

Order placed by 12 noon Friday for delivery on Monday.

Same-day delivery may be possible in Dublin; please contact
Nippon Gases Customer Experience Team for availability and prices.

	STANDARD DELIVERY	COLLECTED		
Order* received	Nippon Gases	Same day**	Next day	
Prior to 12 noon	✓	✓	✓	
12:00 - 14:00	?	?	✓	
14:00 - 17:00	Х	X	✓	

^{*}Order - After receipt of a valid purchase order **Same day - 2 hours after receipt of order confirmation

X - Not possible

DELIVERY CHARGES	ROI	NI	
Small Container (NG 100)	€ 118.05	GBP £ 103.50	Tariffs are charged per container and include delivery plus collection when next delivery occurs within ten days.
Medium / Large	€ 136.00	GBP £ 119.00	An additional collection charge will apply if next delivery does not occur within ten days.

^{✓ -} Standard operation

^{? -} An internal request will be sent to Production, and within 30 minutes you'll be contacted to let you know whether or not production is possible



ADMINISTRATION CHARGES

Item	Description	Price	GBP
Late Order/Order Increase	Orders received after 12 noon (Mon-Fri) for delivery next working day. Fee inclusive of: - Machine start up (waste dry ice). - Administration (Processing/Adjusting plans)	€ 57.50	£50
Cancellation/Order decrease (Dry ice produced)	If any dry ice has already been produced, you will be charged the agreed purchase fee if Nippon Gases cannot reallocate the product. Delivery tariff and premium delivery services will be waived.	Product cost	Product cost
Cancellation/Order decrease (Dry ice not produced)	If the dry ice has not been produced then no charge will be applied.	€0	£0
Copy Invoice/POD	Administration to locate, scan and reissue the POD/Invoice. Charged per document.	€ 29	£25

Administration charges are charged per order.

CONTAINER USE CHARGES (Includes container capacity, cleaning & re-investment costs)

- Charged per use €11.90 or GBP £10. Each delivered container will attract the use charge*.

Damage (Only 1 charge for the worst damage will be made)		Debris (Average depth across the bin)		
Level 1 €57.50/GBP £50	Crack/Dent/Puncture/ Damage smaller than 150mm Missing Hinges/Latches/Locking plate	Level 1 €29 /GBP £25	Customer stickers (third party) still applied Heavy soiling Between 0mm <> 100mm	
Level 2 €114.50/GBP £100	Crack/Dent/Puncture/Damage between 150mm to 350mm Multiple Level 1	Level 2 €57.50/GBP £50	Over 100mm Deep	
Level 3 €285.50/GBP £250	Damage over 350mm / Missing Foot Multiple Level 2	IF debris is of a hazardous nature additional charges will be applied.		
Level 4 €570/GBP £495	New Container Lid			

^{*}Based on new for old and seven days on site holding.

Container Replacement Charge (Damage too substantial for repair) or Lost Container epsilon1135 / GBP £995

Container charges are charged per container.

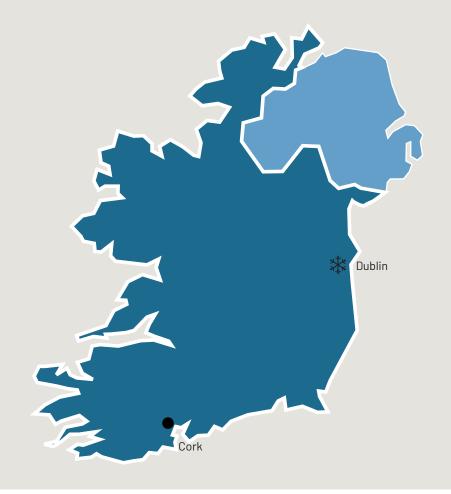
Premium Delivery Services



Cork Collection Depot

Transport Partner Pick Up Locations for Packages

- Pick up available from 8am Monday to Friday.



PREMIUM DELIV	ERY SERVICES	ROI	NI	
Timed Morning (am) Delivery	Please contact Nippon Gases Customer Experience Team for feasibility and prices for your area. If the service is agreed to be provided and the delivery arrives after the arranged time, a credit note of the premium fee is available on request. Charges for the product and standard delivery will still apply.	where	quoted service ssible.	
Weekend	delivery made on a selected weekend day. Please contact Nippon Gases Customer Experience eam for feasibility and prices for your area. If the service is agreed to be provided and the delivery oes not arrive on the day of the weekend agreed, a credit note of the premium fee is available on equest. Charges for the product and standard delivery will still apply.		To be quoted where service is possible.	
Aborted Collection	The driver cannot collect the containers due to a customer issue. Collections are planned to correspond with delivery. 24 hours notice will be given prior to collection, where no delivery is planned.	€57.50	GBP£50	
Aborted Delivery	The driver cannot complete delivery due to a customer issue. Every attempt will be made to contact the customer prior to leaving the site.	Full Cost	Full Cost	

Premium delivery services are charged per delivery



Nippon Gases Ireland Ltd. can offer from our manufacturing plant in Santry, Dublin, a facility for the supply of dry ice, polystyrene boxes and a next day delivery service throughout the 32 counties of Ireland. This is ideal for small urgent deliveries or large marketing campaigns for frozen food manufacturers.

DRY ICE: Product supplied in a food safe film/bag. Full packs only, minimum order 1 pack. Excluding VAT

		ROI €	NI GBP £
Pellet Pack	10 kg bag	€ 37.50* per pack	GBP £32.50* per pack
Slice Pack	10 x 1 kg	€ 41.50* per pack	GBP £36.00* per pack
Block Pack	10 kg	€ 41.50* per pack	GBP £36.00* per pack

^{*}Monthly Variable Fuel & Energy Surcharge applicable to all orders. To be confirmed upon order placement.

PACKAGING: Polystyrene box with cardboard outer. Excluding delivery and VAT

	ROI €	NI GBP £
Small Box (maximum 10 KG): 325x205x210* / 400x280x290**	€16.88 per box	GBP £14.50 per box
Large Box (maximum 20 KG): 545x350x220* / 600x400x290**	€22.43 per box	GBP £19.50 per box

^{*}Internal dimensions (mm) **External dimensions with cardboard outer (mm)

NATIONWIDE PACKAGE COURIER CHARGE (Tuesday to Friday):

For the delivery of a package max 20 kg. Excluding packaging and VAT

	ROI €	NI GBP £
Next day	€ 36.00	GBP £31.50
Timed delivery (where agreed)	€ 50.50	GBP £44.00

MISCELLANEOUS CHARGES: Ex Cork Depot Collection/Transport Surcharge € 7.50

Dublin City delivery charge € 39.00

Please note that ROI and NI pricing can be subject to change based upon the exchange rate. Please refer to Customer Experience for any updates. Prices shown effective from April 2024.



Unless otherwise agreed in writing, by a duly authorised representative of Nippon Gases UK Ltd, all orders are subject to Nippon Gases UK Ltd - Standard Terms & Conditions - Dry Ice, a copy of which is available upon request. Any reference to (or inclusion of) any alternative terms and conditions (whether with any subsequent purchase order or otherwise) shall not apply and no addition to, variation of, exclusion or attempted exclusion of any term of Nippon Gases UK Ltd's Standard Terms & Conditions shall be binding unless agreed to in writing by a duly authorised representative of Nippon Gases.



Bulk dry ice orders are supplied using modular storage containers exclusive to Nippon Gases. The system has been designed following recognition of customer requirements and demands.

The containers are constructed of durable but lightweight polyethylene, making them recyclable and safe for use in the food sector. Small dry ice orders can also be packed and delivered to customers using insulated polystyrene boxes.

CONTAINER FEATURES

- Durable, virtually maintenance free
- Low sublimation rate
- Stackable container system
- Food grade material
- Lightweight
- Lockable

FULL CONTAINER FILL WEIGHTS

Туре	Small Poly	Large Poly	HG 100	HG 200	HG 300	0LIV0	HG 500
External Length (mm)	400	600	780	780	800	1200	1175
External Width (mm)	280	400	580	580	800	800	800
External Height (mm)	290	290	648	978	978	1050	978
Contents*							
1.7 mm Pellet (10 kg bag)	10	20	n/a	n/a	n/a	n/a	n/a
1.7 mm Pellet (blue liner)	10	20	60	120	200	325	325
3 mm Pellet (10 kg bag)	10	20	n/a	n/a	n/a	n/a	n/a
3 mm Pellet (blue liner)	10	20	60	120	200	325	325
3 mm Pellet Food Grade	10	20	60	120	200	325	325
9 mm Pellet (10 kg bag)	10	20	60	120	200	300	300
9 mm Pellet (blue liner)	10	20	60	120	200	325	325
0.5 kg Slice	10	20	100	200	360	480	500
1.0 kg Slice	10	20	100	240	360	480	560
2.5 kg Block	10	20	100	200	360	440	500
5.0 kg Block	10	20	100	200	360	440	500

^{*}All product weights are shown in kilograms (kg)



Safe Transport of Dry Ice

SAFETY HAZARDS



Carbon dioxide gas can build up in vehicles

- Transporting Dry Ice in passenger cars is not recommended.
- Dry Ice will generate carbon dioxide gas and in an enclosed vehicle can lead to a dangerous atmosphere causing intoxication and death by asphyxiation.
- Higher temperatures in the vehicle and poor ventilation will increase the speed of carbon dioxide gas build up.



Dry Ice can move in vehicles

- Containers or packages of dry ice can cause injury and damage if they can move when the vehicle is cornering or braking.
- Any unrestrained dry ice container or package is a hazard.



Dry Ice can be heavy and difficult to handle

- Containers and packages of Dry Ice can weigh over 25kg and can weigh up to 200kg.
- During loading or unloading, injuries can occur fromfalling containers and packages, and from incorrect manual handling.
- Additional hazards from overloading the vehicle or unbalanced loading are poor vehicle braking and handling.



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Dry Ice cold & pressure hazards

- Dry ice is very cold -78 °C, if it touches bare skin or eyes it will cause cold burns.
- Exposure of plastics and other hard materials to Dry Ice may lead to them becoming brittle and shattering.
- If Dry Ice is put in a sealed container, pressure will build up to dangerous levels.



Product Hazards

 Labels show the hazards and weight from packages containing Dry Ice, and are the only way to positively identify the contents of a container.



TRANSPORT REGULATIONS

- Dry Ice is exempt from the ADR transport regulations except where dry ice is used for cooling or conditioning purposes. In this case, the requirements of paragraph 5.5.3 of ADR shall apply.
- Particular attention should be made to the type of transport vehicle used, and the requirements for segregation of the load space from the driver, plus any warning signage which may be required.
- If carrying Dry Ice on passenger transport check how the relevant Transport Regulations apply to you.



Safe Transport of Dry Ice

HOW TO STAY SAFE



Prevent gas build-up

- Minimise the time Dry Ice is in the vehicle. A dangerous level of carbon dioxide can build up in less than 20 minutes.
- Minimise the quantity of Dry Ice carried in non dedicated vehicles.
- Carrying Dry Ice in passenger cars is not recommended.
- Unload the vehicle as soon as possible

 never store Dry Ice in an unventilated vehicle.
- Ensure sufficient ventilation of the vehicle over the whole time the Dry Ice load is inside



Ensure all containers are well secured

- Ensure containers and packages are evenly loaded and secured to prevent movement during cornering, acceleration and emergency braking.
- Ensure vehicle is not overloaded.



Loading and unloading

- For heavy containers use mechanical aids or get help to load and unload the vehicle.
- Wear safety shoes.
- Read the product Safety Data Sheet and labels to understand the hazards of the substance you are handling.



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Avoid other Dry Ice hazards

- Always wear gloves that provide thermal protection when handling Dry Ice.
- Handle Dry Ice for the minimum amount of time possible.
- Individuals with poor blood circulation should not handle Dry Ice.
- Never put Dry Ice in a sealed container, to avoid pressure build up.

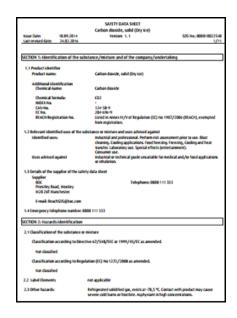


EMERGENCY ACTIONS

If you feel unwell or suspect a build up of carbon dioxide:

- Stop the vehicle as soon as possible and get out.
- Ventilate the vehicle open all the doors.
- If you suspect a gas build up in a parked vehicle, do not get in it.

Call your Dry Ice supplier for further advice and a copy of their Safety Data Sheet



Marking of packages containing CO₂/Dry Ice

- 1. Packages shall be marked with the words CARBON DIOXIDE SOLID or DRY ICE
- 2. Packages must be carried in well ventilated vehicles, IF that cannot be achieved then a warning mark shall be fixed near the door to the load area as shown:



The * shall be replaced with the words CARBON DIOXIDE SOLID or DRY ICE and remain in place until the vehicle is completely unloaded and any concentration of ${\bf C0}_2$ dispersed.

3. A document, not specifically a DGN but any form of consignment note, BoL etc., shall include the UN Number and Name "UN 1845 CARBON DIOXIDE SOLID or UN 1845 DRY ICE



Safe Storage/Handling/Disposal of Dry Ice

STORAGE









Always store Dry Ice in an area which is:

- Well ventilated.
- Preferably not below ground.
- Accessible with mechanical lifting equipment (where the ice is stored in large containers).
- Out of direct sunlight and sources of heat.
- Secure to prevent unauthorised access.
- Suitable Dry Ice containers are available from your supplier. Generally, the principle is the better
 the insulation, the slower the sublimation rate and the longer the quality of the product will be
 maintained.
- **DO NOT** store or use Dry Ice in any gas tight container. Within large containers, gas rich atmospheres will have built up.
- ALWAYS secure the container lid open before reaching in to unload the product.
- AVOID leaning into the container for longer than necessary.

HANDLING









Working with Dry Ice

- Many applications of Dry Ice result in the sublimation of the Dry Ice volume into the working area.
- REMEMBER a little bit of Dry Ice will sublime to a large volume of CO₂ gas.
- **ALWAYS** seek professional advice on suitable ventilation systems. Use of Dry Ice will generate gaseous CO₂, This may require assessment under the UK COSHH Regulations.
- Do not handle Dry Ice with bare hands. It can cause severe cold burns and frostbite.
- DO NOT play with Dry Ice. Playing games with Dry Ice is dangerous.
- ALWAYS keep Dry Ice away from children.
- USE AN INSULATED CONTAINER TO STORE Dry Ice
- DO NOT PLACE IN WORKING REFRIGERATOR OR FREEZER

DISPOSAL

Safe Disposals

- Dry Ice sublimates leaving no residue. However, care should be taken when surplus ice remains when the application for which it was intended is completed.
- ALWAYS ensure that Dry Ice is disposed of in a safe place:
 - » Well-ventilated area
 - » Secured against access to passers-by especially children and animals
- DO NOT dispose of Dry Ice in an area where CO₂ gas can collect in low-lying areas
 garage pits, drains, confined spaces, etc.
- Any left over packaging should be disposed of with care and recycled wherever possible.



Bulk Gases specialising in CO2 but also

- Liquid Nitrogen
- Liquid Oxygen
- Liquid Argon

Packaged Gas (Cylinders and Dry Ice) specialising in Diving Gases and Dry Ice but also

- Speciality Gases
- Electronic Gases
- Welding Gases
- Other gases available on request

Chemicals specialising in AdBlue and Monoethylene Glycol

- Other chemicals available upon request

Technical Services, including

- Installation
- Maintenance
- System design

DNV and ISO Tank rentals

- Frame/lift tanks with various lining options

For more information or to discuss your specific requirements:

Tel: +353 (01) 854 7100

Email: dryice.ireland@nippongases.com













Nippon Gases Ireland Ltd

Dry ice is carbon dioxide ($\rm CO_2$) in its solid state. The product has a temperature of -78.6°C (-109.5°F), whereas traditional water ice is only 0°C. A dry ice block has more than three times the cooling capacity of water ice of the same size.

Dry ice leaves no melted residue as it sublimates into a gaseous state. Dry ice is produced by compressing and cooling gaseous CO_2 into liquid and then allowing it to expand to make CO_2 snow. A hydraulic press then compresses the snow into convenient-sized blocks, slices and pellets.

Nippon Gases Ireland - Dry ice

Nippon Gases Ireland Ltd dry ice plant is located in Santry, Dublin, just 4 minutes from Dublin Airport. We manufacture dry ice six days a week at this state-of-the-art facility and can supply Standard and Food Grade dry ice in various quantities and formats. Liquid Carbon Dioxide (CO $_2$) is the raw material for dry ice; Nippon Gases is the only fully integrated CO $_2$ liquefaction and dry ice manufacturing company in Ireland, which ensures continuous supply and enhanced price stability.

At Nippon Gases, we develop products for the right applications. Call us, and we'll help you determine the best supply option for your operations.

Nippon Gases Europe

As the European subsidiary of Nippon Sanso Holdings Corporation (NSHD) - a global company with over 100 years' worth of experience - Nippon Gases is responsible for representing the Group's presence and interests in Europe.

Comprised of five operational regions across 13 countries, Nippon Gases believes in an innovative, collaborative, and proactive approach to business. Combining, not only each region's specialities and leadership but also each team, and every employees' individual talent and knowledge.

We achieve results whilst maintaining the highest standards in safety and sustainability - being recognised by many industrial gas associations. Being able to move forward and improve as a team, implementing our joint approach to business whilst being able to give back to our employees and communities in which we operate, is how we are enabling the future together.

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