



Nitrous Oxide Risk Assessment & Response Plan

**Prepared on behalf of the
Irish Hotels Federation**



March 2024

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1.0 RISK ASSESSMENT

In accordance with Section 19 Safety Health and Welfare at Work Act 2005, Risk Assessments must be completed for all work activities on site. The sites and their safety teams are responsible for ensuring that additional recommended controls are implemented within agreed timeframes. Employees will be made aware of the Risk Assessments relevant to their work activities.

A Risk Assessment should be reviewed annually and where:

- (a) there has been significant change in the matters to which it relates, or
- (b) there is another reason to believe that it is no longer valid, e.g., new legislation, following an accident, introduction of a new process, etc.

Following the review, Risk Assessments will be amended as appropriate.

1.1 GENERAL SAFETY & INTRODUCTION

It is your responsibility to ensure that your actions do not jeopardise your safety or that of other members present in the workplace. It is essential that you understand how to operate equipment and observe required practices. For such reasons before starting work, you must ensure you have attended the appropriate induction and have received relevant instructions from your department manager. If you are unsure of the correct procedures, please notify the department manager.

Risk Assessments are carried out in 2 stages. Once a hazard is identified the likelihood of the event and the severity of the injury as a result of the hazard must be assessed. The likelihood and severity are then combined to provide an overall assessment score of the hazard. There are many combinations, we can have a high severity but low likelihood of occurrence or medium severity and medium likelihood. Once hazards and risks are identified, suitable and sufficient controls measures are introduced with the aim to eliminate or reduce hazard to an acceptable level of control.

1.2 MECHANISM-RISK MATRIX & RATINGS

Likelihood	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Severity				

Note: Likelihood rating represents the likelihood of the event taking place irrespective of the outcome or severity.

LIKELIHOOD		
1	Unlikely	Numerous control measures would have to be intentionally by-passed. Very little chance of it happening / not foreseeable.
2	May Happen	Control measures may fail or may be defeated. Sometime in 100 years
3	Likely	There is an even chance that this will happen. Within 10 years
4	Very Likely	Control measures depend on a person using them on every occasion e.g. : administrative control alone, PPE only etc. Within 1 year
5	Certain	Harm from the hazard is certain or imminent if no control measures are provided. Next shift
SEVERITY		
1	Minor	Slight Injury (small cut – paper cut). Slight damage to equipment. Minimal cost. No down time. Very slight spill / small scale contamination
2	Appreciable	Minor injury or first aid. No lost time (sprain / cut). Minor damage / parts replacement. Minor contamination.
3	Major	Hospital treatment or lost time (Severe cut / fracture etc.). Localised damage. Localised contamination / spill
4	Severe	Permanent disability e.g. amputation, blindness etc. Major damage to equipment. Large-scale contamination.
5	Catastrophic	Fatality / multiple fatalities. Extensive damage to property. Major uncontained release.
Rank	Action	
0-5	Adequate controls in place at present. Continue to monitor and review for adequacy (Low / Tolerable)	
6-10	Some action may be required to reduce the risk to further. Continuously monitor and reduce where possible (Medium / Apply Judgement)	
12-16	Possibly uncontrolled and further action necessary to reduce the risk to as low as reasonably practicable (ALARP). Persons / property / environment are in danger and need additional control measures (High / Reduce Risk – ALARP)	
20-25	Very high risk – largely uncontrolled and should be actioned as an immediate priority (Very High / Action Immediately)	

Risk Assessment Title : Nitrous Oxide	Business Name:	Issue Date	November 2023
Risk Assessment Team:		Revision Date	November 2024 (unless changes takes place)
		Revision Number	Revision No. 00
		Document Number	1

Scope of Risk Assessment: Business Name ; documenting controls for ; Nitrous Oxide

HAZARD	RISK	EXPOSED	EXISTING CONTROL MEASURES	EXISTING RISK RATING			ADDITIONAL CONTROLS REQUIRED	REVISED RISK RATING			ACTION OWNER	DUE DATE
				L	S	RR		L	S	RR		
Nitrous Oxide	Explosion Frostbite Aggressive behaviour Psychosis Nerve damage, paralysis, serious injuries Loss of consciousness due to Oxygen Starvation Hypoxia Cardiac arrest, death	Employees Housekeeping Guests Contractors	Use of Personal Protective Equipment (Gloves). Training: Awareness of Hotels' Policy and Controls. Training: Working, Handling and Disposal of Nitrous Oxide Canisters.	2	5	10	Employees to be made aware that if they smell gas or discover Nitrous Oxide gas canisters that they must inform management. If a guest uses and / or brings laughing gas during their visit to the hotel and if nitrous oxide canisters are found in the room, management to be contacted. Management to discuss with the guest(s) to implement corrective actions/disposal. Persons exposed to high quantities of gas are removed to the fresh air. Contact trained first aid responder.	1	5	5		

						<p>Ensure refresher training is provided to all employees on working, handling and disposal of the gas canisters.</p> <p>The number of employees and the exposure to gas to be assessed and minimised.</p> <p>Removal equipment/containers/kits to be made available in each department/floor.</p> <p>Eye, skin, respiratory protection is provided and worn appropriately.</p> <p>Ensure training is provided on the proper use and maintenance of Personal Protective Equipment.</p> <p>Gas canister(s) to be stored in a marked container.</p> <p>Gas canister(s) to be stored in a locked room and away from any heat source/sunlight.</p> <p>Gas canister(s) to be moved from the premises by a licensed contractor.</p>				
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Business Name			
Document Name:	Nitrous Oxide Policy		
Issue Date:	[Insert Date]	Prepared By:	[Insert Name]
Revision Date:	N/A	On behalf of:	[Insert Name]
Revision No:	N/A	Pages:	[Number of Pages]

1.4 Nitrous Oxide Policy

Purpose

The [Business Name] is committed to providing a safe and healthy workplace for all our workers and customers. To ensure that, we have developed the following Nitrous Oxide (N₂O) Response Plan.

Overview

Nitrous oxide (commonly known as N₂O; “hippy crack”; laughing gas) is a safe and widely used anaesthetic agent and is also used as a propellant for whipped cream. Due to its associated euphoric effects, nitrous oxide is misused recreationally. Nitrous oxide abuse is emerging throughout Europe.

Nitrous Oxide (N₂O) is a liquid gas. It is colourless with a sweet odour and taste. An individual that comes into contact may be harmed from exposure to nitrous oxide. The level of exposure depends on the dose, duration, and type of work being done. Breathing nitrous oxide can irritate the eyes, nose and throat, causing shortness of breath. Exposure can cause dizziness, headaches, numbness, “pins and needles”, and accidental falls. Some effects are from hypoxia caused by a temporary lack of oxygen, which may also cause seizures. Long term exposure can cause nausea, unconsciousness, and even death.

THE FOLLOWING RECOMMENDATIONS ARE ONLY GUIDELINES AND MAY NOT APPLY TO EVERY SITUATION.

The following practices are recommended if a person comes into contact with Nitrous Oxide and help reduce the hazardous exposure.

Responsibility

All Managers, Supervisors and Staff Members are responsible for the implementation of this policy.

Safe Handling Requirements - Found in Bedrooms

Hotel Guests/Contractors

- Where a guest or contractor notices a Nitrous Oxide canister inside a hotel room. The guest/contractor to leave the room immediately and contact reception.
- If a guest or contractor comes into direct contact with the gas on their skin or eyes: the guest or contractor are to immediately wash the exposed area to remove the hazardous chemical from their skin or eyes.

Hotel Employees

- Where an employee comes into direct contact with the gas on their skin or eyes. Employees are to immediately wash the exposed area to remove the hazardous chemical from their skin or eyes.
- If an employee notices a Nitrous Oxide canister in a hotel room: windows are to be opened to increase the air flow and allow the gas to disperse from the room.
- If the room has a ventilation system, the ventilation should be also turned on to increase air flow and allow the gas to disperse. The function of the ventilation in this circumstance is to dilute the concentration of N₂O, such that it does not exceed the maximum time exposure limits for Employee, Contractors and Guests.

- Times related to working in the room will depend on the amount of gas or size of containers found within the room. This is done through:
 - Minimum of 10 air changes per hour.
 - Ensure high level air inlet in combination with low level air outlet to create air movement across the room to effect the safe extraction of the gas.
 - Ensuring ventilation is turned on and unobstructed.
- To avoid exposure when working in the room employees are required to wear protective gloves, safety glasses and a ventilation mask.
- If an employee experiences symptoms while working in the room they are to exit the room immediately.

Safe Disposal / Waste Collection

- Treat the cylinder with care. Dropping or hitting the cylinder with a sharp or pointed object or puncturing the cylinder can resulting in serious injury.
- Contact surfaces that come into contact with nitrous oxide shall be cleaned to remove all trace particles, oil and grease that could have been introduced.
- Canister(s) to be stored in a marked container and away from any direct heat in a locked storage area. Access to this room should be restricted.
- Canisters are recyclable steel only. Canisters are only to be disposed of by a licenced contractor.

Management Signature & Date: _____

1.5 Task Specific Training Log

Authorisation

I confirm that I have considered and understand the operation / task and the associated hazards.

I am satisfied that all of the hazards have been identified and that the control measures to be followed will reduce the risks to acceptable levels.

I will report any concerns or findings to management / supervisors.

Print name:

Signed:

Date:

Declaration by Staff Member;

I confirm that I have read this Risk Assessment and that I understand the hazards and risks involved and will follow all of the safety procedures stated.

Where PPE has been identified as a control measure, I will ensure that it is worn.

Declaration by Management, H&S team:

I confirm that the employee who has signed below is competent to undertake the work. My

countersignature indicates that I am happy for the work to proceed.

NAME (PLEASE PRINT)	EMPLOYEE SIGNATURE	MANAGEMENT / OFFICER SIGNATURE	DATE



Image: Nitrous Oxide Gas Canisters