

This form is used to document the safety review required before introducing oxygen-displacing gases, including cryogenics, into a work area or changing the existing use of such gases (for example, by adding or modifying systems, changing operations, or changing the quantity of gases used). The form is to be completed by the responsible person for the activity, reviewed by his or her ESH coordinator, and approved by the cryogenic and oxygen deficiency hazard (ODH) safety program manager. The completed form is to be maintained by the program manager and a copy kept by the responsible person (see [Cryogenic and Oxygen Deficiency Hazard Safety: ODH Safety Review Procedure](#) [SLAC-I-730-0A06C-001]).

1 General Information

Preparer		Location (bldg/rm/area)	
Responsible person		Directorate	
Description of system			
Gas to be introduced		Type of hazard	
Gas source		Additional comments (see back for add. space)	
Attachments	<input type="checkbox"/> Room floor plan showing location of ODH (required) <input type="checkbox"/> Risk assessment (if required, see below)		

2 Preliminary ODH Calculation

If source is INSIDE proposed ODH area (e.g., dewar, tank)		If source is OUTSIDE proposed ODH area (e.g., from a compressor, pump)	
Total volume of room ^a , $V_R(\text{ft}^3)$ =		Total volume of room, $V_R(\text{ft}^3)$ =	
Volume of gas at room temperature and pressure, $V_G(\text{ft}^3)$ =		Volume of flow rate of gas into room at room temperature and pressure, $Q(\text{ft}^3/\text{h})$ =	
Calculate oxygen level, $\frac{21(V_R - V_G)}{V_R}$ =		Calculate oxygen level ^b , $\frac{21(V_R - Q)}{V_R}$ =	
		Will ventilation be maintained during building power failure? ^c	<input type="checkbox"/> Yes <input type="checkbox"/> No

a Room volume is calculated as length x width x ceiling height. Do not reduce room volume to account for room contents (cabinetry, machinery).

b This calculation assumes one air change per hour into the space.

c If there is no positive ventilation during a power failure, further evaluation is required to show that the area has sufficient passive ventilation or other mitigations are in place to assign an ODH 0 classification to the space.

If resulting oxygen level is $\geq 19.5\%$ normal ops or $\geq 18\%$ during system upset	Sign form and submit for approval
If resulting oxygen level is $< 19.5\%$ normal ops or $< 18\%$ during system upset	Conduct a risk assessment (see ODH Safety Review Procedure , Section 2.2) and complete Part 4, "Additional Information", then sign form and submit for approval

3 Approvals

Person	Name	Signature	Date
Responsible person			
ESH coordinator			
Cryogenic and ODH safety program manager			
ODH classification			
Comments			

4 Additional Information for Risk Assessment

<i>To be completed by responsible person. List all that apply and be as specific as possible; indicate whether controls are existing or planned.</i>	
Engineering Controls <i>Example:</i> <i>Mechanical ventilation</i> <i>Fume hoods</i> <i>Valves</i> <i>Critical orifices</i>	
Administrative Controls <i>Example:</i> <i>Training required</i> <i>Standard protective measures</i> <i>Work control documents</i>	
Attachments <i>List all that apply:</i> <i>Communications</i> <i>Risk assessment</i> <i>Hazard analysis</i>	

5 Additional Comments

General Information	
Approval	
Risk Assessment	