Health & Safety News Flash

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STACK GAS EXPOSURE

The Health and Safety Task Group has been reviewing accidents that have happened in the last year. A major cause for concern is the increasing number of incidents concerning members being exposed to high levels of toxic stack gases.

DO YOU KNOW WHAT GASES ARE IS IN THE STACK?

Attached you will find the latest guidance note regarding exposure to Stack Gases with a form we encourage you to send to your clients to fill out. This has been tested by one of our members and has a high success rate in having it completed by their clients.

We have also been in consultation with other members including the Environment Agency and we all trust this will become standard practice throughout the industry.

DO NOT WAIT UNTIL IT IS TO LATE.

Sent out on behalf of STA Health & Safety Task Group.

If you have any questions please contact Dave Curtis, 01462 457535.

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Stack-Gas Exposure Information Sheet

This information sheet has been developed as an industry-wide initiative to strengthen site risk assessments and prevent accidents and injury during emissions monitoring.

This sheet is designed to help you, the process operator, in supplying any monitoring organisation with information about hazardous substances in the stack-gas, so that an assessment can be made of the likely exposure of the monitoring team working at the stack. Under the Control of Substances Hazardous to Health (COSHH) Regulations 1999*, it is a legal requirement of the occupier of the premises and or the employer to make this assessment before starting any work that could expose their employees to substances hazardous to health.*

Completion of this sheet does not itself constitute a suitable risk assessment. The information provided here should be considered by the monitoring organisation, with other factors to assess whether the risk of exposure is acceptably low or requires reducing further. Where exposure needs to be reduced, the monitoring organisation and operator will need to agree suitable control measures before monitoring work can commence. Further details on risk management are given in the STA booklet Hazards Risk and Risk Control in Stack Testing Operations.

Guidance on completing the sheet is given below. Operators with queries about this procedure should contact their monitoring organisation in the first instance, or the Source Testing Association at Health.Safety@S-T-A.org

Guidance on completion

- ***Step 1.*** Monitoring organisation to fill out Parts A5, A6 and A7 of table A, and send to process operator.
- ***Step 2:*** Process operator to fill out Parts A1 to A4 of table A. A separate sheet must be used for each stack, so make any further copies at this point.
- ***Step 3.*** Process operator to complete Table B, providing information on physical conditions (e.g. temperature and pressure) in the stack/duct that could affect exposure. Indicate whether pressure can vary due to e.g. atmospheric conditions. Indicate if there is any work proposed between now and the monitoring visit that could have an effect on the concentrationsin the stack/duct.
- ***Step 4.*** Process operator to fill out Table C. Some common hazardous substances* have been listed already – place a tick next to ones that it is believed are present in the stack/duct, or a cross if the substance is not present. Next, list out (as far as is reasonably practicable) any other known hazardous substances that are present in the stack/duct. Now state the concentrations of these substances in the stack/duct, both the "normal" concentrations and any peak concentrations that may occur at stages in the process or during process upsets, etc. Don't forget to state the units (ppm, mg/m^3 or %). If you don't know the concentrations, state this clearly under *Additional Notes.*
- ***Step 5.*** Process operator to fill out Table D. Consider what plant or process failures could occur. What emergency situation could occur on the plant? Describe what effects these will have on the stack gas, e.g. increase in concentration, pressure becomes positive
- ***Step 6.*** Process operator to complete Parts A8 and A9 and return sheet(s) to monitoring organisation.
- ***Step 7.*** Monitoring organisation to use this information to make an assessment of exposure to hazardous substances in the workplace (at the stack) as required by the Control of Substances Hazardous to Health (COSHH) Regulations 1999. Implement any control measures needed to reduce exposure before any monitoring work is started.

* This list of common hazardous substances in stack gases is not exhaustive and does not imply they are of greater hazard or pose a more serious risk than other substances.

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EXPOSURE TO HAZARDOUS STACK GASES DURING SAMPLING

A separate sheet must be completed for each stack or duct.

Part A: Details about the plant, site, operator and monitoring organisation

A1.Stack description:	**A5.Sent by (name, organisation):**
A2.Stack reference:	**A6.Sent to (name, organisation):**
A3.Site:	**A7.Date:**
A4.Operator:	**A8.Completed by (name, organisation):**
	A9.Date returned:
Operator to complete	**Monitoring contractor to complete**

Part B: Physical factors affecting exposure

	Yes	No	Not known
Is the gas in the stack or duct under +ve pressure? Can the pressure vary between-ve and +ve pressure?			
What is the temperature of the stack gas?			
Is there any work such as plant modifications proposed before the sampling visit date that could affect the make-up of the stack gas or the pressure of the stack?			
Operator to complete			

Part C: Make-up of the stack gas

Hazardous substance	Normal concentration (ppm, mg/m^3 or %) in the duct	Peak concentration (ppm, mg/m^3 or %) in the duct	Additional notes
Common hazardous substances - put a tick next to each if present, or a cross if absent			
✓or ✗			
Carbon monoxide			
Carbon dioxide			
Sulphur dioxide			
Nitrogen dioxide			
Hydrogen cyanide			
Hydrogen chloride			
Hydrogen fluoride			
Hydrogen sulphide			
Ammonia			
Di-isocyanates			
Formaldehyde			
Other hazardous substances in your stack gas – please list these below			
Operator to complete			

Part D: Emergencies

Consider what emergency situation could occur on the plant: please indicate what effects this will have on the stack gas, e.g. increase in concentration, pressure becomes positive.	**Details:**