

TOXIC FUME INHALATION

Purpose: To prevent recurrence, not place blame.

Report Date: 07-07-2015

Start Date: 07-07-2015

Report Number: NC- 150703

I. Problem Definition

What: Toxic Fume Inhalation

When: 3 July, 2015 at 10am

Where: Lab 3

Significance: Low

Safety: Reportable incident but no medical treatment required; Potential lung irritation

Environment: Slight release of SO₂ gas (air pollution)

Revenue: Production delayed 20 minutes while lab evacuated and source identified

Cost: Minor administration

Frequency: 3rd reported incident in 2015

II. Report Summary

Toxic fume inhalation was caused by SO₂ fumes entering Lab 2 via one of three drains. The drains service the fume cupboard, a floor waste and an eyewash station in Lab 2. The fumes originated in the sump when the product, NA₂S₂O₅, mixed with water when the dosing pump was flushed out. This flushing occurred because the pump was hosed out in Lab 1 to remove a blockage. The blockage was caused by the accumulation of the product on the inside of the pump chamber and connections. The flushed material entered the drain and thence to a common sump servicing both labs.

III. Solutions

Causes	Solutions	Solution Owner	Due Date
Chemical built up	Implement weekly flushing schedule for pumps in this process/product, measure effectiveness and recommend adjustments as required	Warren Gibbs	10-07-2015
Doors closed	Install additional ventilation in the room	Shane Consent	24-07-2015
Drains unplugged	Install airlock/trap on each plumbing drain from both labs to prevent fumes emanating from sump or connected drains	Warren Gibbs	14-08-2015

IV. Team Members

Name	Email	Member Info
Lloyd Smith	lsmith@chemlab.com	Mechanical Engineer
Shane Consent	sconsent@chemlab.com	Electrical Engineer
Ian Stephens	istepphens@chemlab.com	Chemist
Warren Gibbs	wgibbs@chemlab.com	Maintenance Coordinator
William Metz	wmetz@chemlab.com	Maintenance Supervisor

V. Notes

1. Realitychart Status: The Realitychart is in draft form and the Incident Report has not been finalized.
2. NB: possible chemical could crystallise in here at low temps
3. Some causes have been purposefully left off the chart.
4. Rules Check Status: Missing Causes Resolved.
5. Rules Check Status: Conjunctions Resolved.

VI. References

1. Operator statement
2. Floor plan
3. Reference removed
4. Lab maintenance schedule

