

# USG Preparation and Execution of Contracts

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United States Gypsum Company

# Contractor Safety Review

## Why have a contractor safety program?

- Safety is the first of USG's core values
- Contractors must follow the same rules as USG employees to ensure plant safety
- It makes good business sense to provide a safe working environment for everyone on plant property

# What is a Contractor?

## 3 Types

1. Service Contractor – anyone coming onsite to perform work and/or service
2. Pick-up and Delivery – truck drivers
3. Visitors & Vendor – anyone visiting the plant (including USG employees) or coming on site for sales purposes, etc.



# When do you need a contract?

Anytime a contractor will be performing work on USG property



# Why do you need a contract?

- Provides a clear definition of scope, schedule, and costs
- Indemnifies – covers USG for someone else's negligence
- Outlines insurance requirements
- Assigns accountability to contractor and USG personnel

# Contract Procedures

## USG's Owner's Representative Basic Responsibilities:

- Define Scope of Work
- Secure Bids
- Select Contractor and/or Award Contract
- Execute Scope of Work
- Oversee Contractor Safety

# Contract Bid Process

**Avoid surprises to bidding parties concerning USG's requirements by:**

- Providing contractors USG plant specific safety rules
- Ensuring contractor awareness of drug testing requirements
- Reviewing Insurance Requirements for the job

*These items may add cost to the project.*



# Contract Bid Process

**Before choosing a contractor, you want to review the following:**

- Safety Record
- Past Experience
- Availability
- Price (2 bids required for any job between 5K and 10K; over 10K you need 3 bids)
- Insurance



# Contract Bid Process

## Safety Record

Possible information to request:

- OSHA Training Certifications
- Electrical Safety Certifications
- Professional Licenses
- Workers Compensation Experience Modification Rate
  - Contractor's insurance agent can provide
  - Ratings > 1 are of concern

DOL & DOT Records

# Contract Bid Process

Past Experience: References

Similar Jobs

Visit Contractor Current Job Site

Availability: Number of Crews

Work Schedule

Price: Lump Sum Pricing

Time & Material Not to Exceed

# Insurance Requirements

## Types of Insurance

**Workers Compensation** – Contractors insurance to cover work related injuries or illnesses to contractors employees

**Commercial General** – Covers damage to USG property or injuries to USG employees caused by the contractor / Covers personal injuries or property damage to third party entities caused by the contractor while on USG property

**Auto** – Covers damage or injuries caused by contractor vehicles

**Professional** – Errors or omissions caused by design professional that impact USG property or operations

# Insurance Requirements

## Risk Based Insurance Requirements:

Low / Medium / High Risk Contracts

Low Risk Contracts: These Contracts will require minimum limits of \$1,000,000 per occurrence and in the aggregate for Commercial General Liability:

- Weigh Scale Service
- Janitor Service
- Network and Phone Service
- Pest Control
- Infrared, Vibration and Predictive Service
- Water Line Maintenance
- Landscape Service
- Overhead Door Service
- Belt Splicing
- Engineering Service

# Insurance Requirements

## Risk Based Insurance Requirements:

Low / Medium / High Risk Contracts

Medium Risk Contracts: These Contracts will require minimum limits of \$3,000,000 per occurrence and in the aggregate for Commercial General Liability:

- Asphalt Service
- Nuclear Equipment Service
- Pressure/Temperature Sensor Service
- Water Tank Service
- Millwright Service
- Painting
- Mobile Equipment Service

# Insurance Requirements

## Risk Based Insurance Requirements:

Low / Medium / High Risk Contracts

High Risk Contracts: These Contracts will require minimum limits of \$5,000,000 per occurrence and in the aggregate for Commercial General Liability:

- Roofing
- General Construction
- Electrical Installations and Service
- Asbestos Abatement
- Hazardous Tank Cleaning
- Mine Hoist Rope Inspection and Service
- Commercial Diving & Marine Work
- Explosive & Demolition Work
- Crane Service and Inspection

# Insurance Requirements

## What is a Certificate of Insurance

Formal document that verifies insurance coverage levels

# Awarding the Contract

- Use information obtained in bid process to award contract
- Retain contract & support documents (certificate of insurance, worker's compensation & bids) for 10 years beyond the life of the contract





# Issuing the Contract

## Corporate Issued Contracts

- Asbestos Removal and Transfer
- All Waste Removal, Including Hazardous Waste
- PCB Removal / Disposal
- Commercial Diving
- Over \$50,000 issued and signed by Corporate Purchasing

After contract is signed by both parties, you now have a binding agreement

# Executing the Contract

## **Coordinate job plans with Contractor**

- Scheduling work & deliveries
- Designate staging areas for contractor's materials and equipment

## **When the contractor arrives on site**

- Cover safety requirements with contractor's site foreman
- Contractor site foreman must then cover pertinent information with his/her crew and document
- USG representative must conduct safety inspections of contractors
  - Daily at a minimum; Large or specialty contracts require more inspections
- Re-verify insurance

# Executing the Contract

## Disciplinary Action

- In the event an unsafe act and/or a safety infraction occurs, the company will initiate the steps listed below:
  - 1st Infraction - On site verbal warning to contractor
  - 2nd Infraction - Meeting with the contractor's company manager
  - 3rd Infraction - Written notice to contractor
  - 4th Infraction - Termination of contractor
- Blatant disregard for safety or severe unsafe act will be cause for immediate removal from the site
  - ❖ Infractions & observations must be documented
  - ❖ Written notices & support documents (faxes, e-mails, notes, etc.) need to be kept on file.

# Executing the Contract

## Accident Handling

- As with our employees, if there is ever an accident involving a visitor at the plant, including contractors & vendors, our first concern is that they get proper medical attention.
- If a minor injury occurs, you should contact the contractor's supervisor who can then escort the contract employee to a local clinic or emergency room. If necessary, the plant can assist by making an appointment for the contractor at the local USG clinic.
- If a serious injury occurs, you should immediately call 911 and follow the normal accident procedures for the plant. You should notify the contractor's supervisor as soon as possible.
- After any incident, including accident no-injuries (ANI's), a proper accident investigation should take place.
- All injuries involving contractors should be paid by the contractor's workers compensation carrier. The only exception to this is for contractors who fall under the OCIP - Owner Controlled Insurance Program.

# Conclusion

- Site inspections should be meaningful, documented daily, and submitted weekly to the Engineering Manager
- Owner's representative is responsible for finding, hiring & most importantly ensuring that contractors are working in a safe manner at all times

# Management of Combustible Gases in Stock and Water Chests

Paula Hajakian  
United States Gypsum Company

# Agenda

- Near miss
- Hot work permit
- Air monitoring
- Generation of anaerobic bacteria
- Proper chest venting

# Incident Description

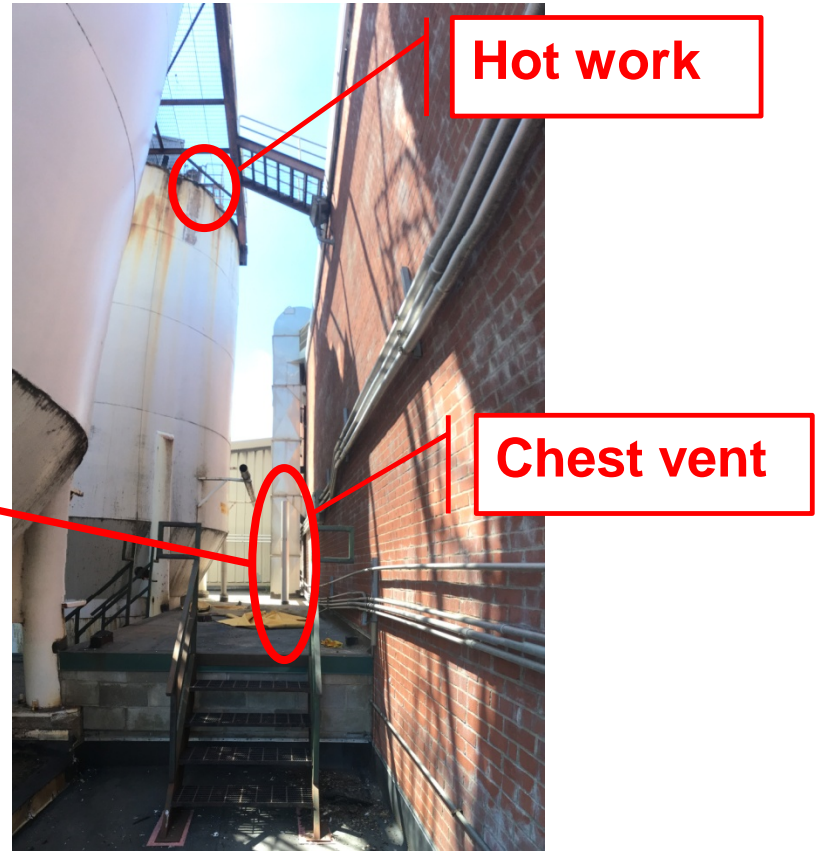
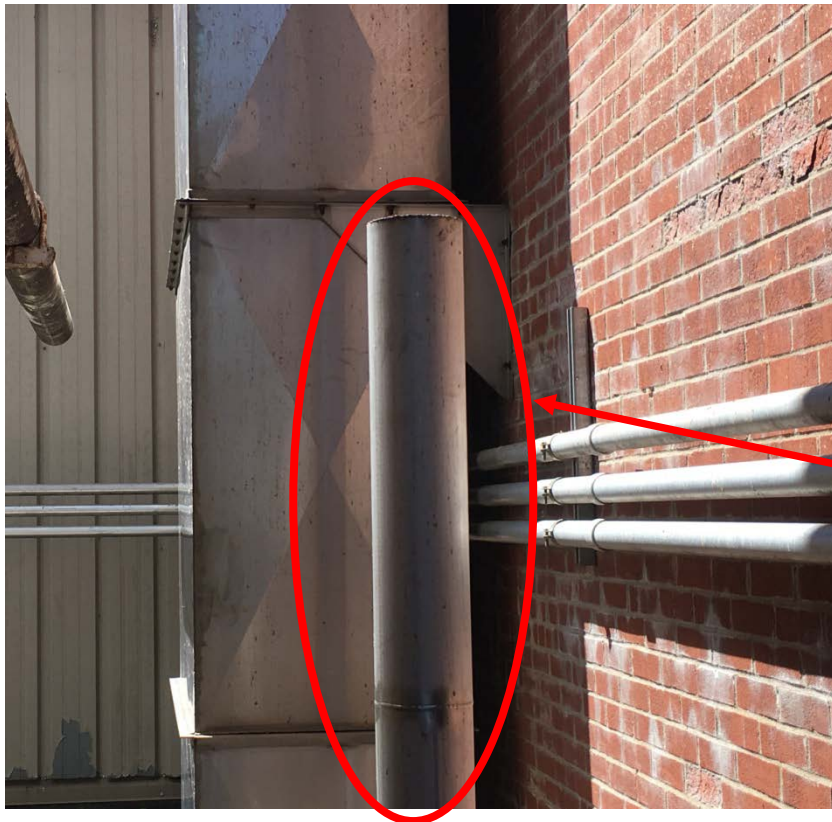
- Cutting out grating on a catwalk
- Exterior structure
- Hot work permit issued





# Incident Description, cont.

- Hot work near the filler refined chest exhaust vent
- Vent covered with welding blanket.



# Root Cause

A spark from a hot work task near an area where there was a lack of ventilation of explosive gases from a vent of an operational paper stock chest.

# Corrective Actions

- Structural engineer to verify area safe
- Review accident and corrective actions with plant and contractor
- Audit and label all tanks, chests, overflows and vents
- Prioritize and implement tank ventilation engineering solutions
- Evaluate and improve all communications with contractors
- More in depth hot work training - module

# Hot Work Permit

- Identify hazards
- Address hazards
- Communication between paper mill and contractors
- Air monitoring
- Condition of equipment

# Air Monitoring – Combustible Gases

**Hydrogen gas**

**Methane gas**

**AIR**

**Hydrogen sulfide gas**

**1 ppm TLV/TWA**

**100 ppm IDLH**

**5 ppm STEL**

TLV/TWA Threshold Limit Value/Time Weighted Average  
STEL Short Term Exposure Limit (ACGIH)

IDLH Immediately Dangerous to Life or Health

# Air Monitoring – Combustible Gases

**Hydrogen gas**

**4-75%**

**Methane gas**

**5-15%**

**AIR**

**Hydrogen sulfide gas**

**1 ppm TLV/TWA  
100 ppm IDLH**

**4-44%**

# Air Monitoring – Combustible Gases

**Hydrogen gas**

Density = 0.1

4-75%

**Methane gas**

Density = 0.6

5-15%

**AIR**

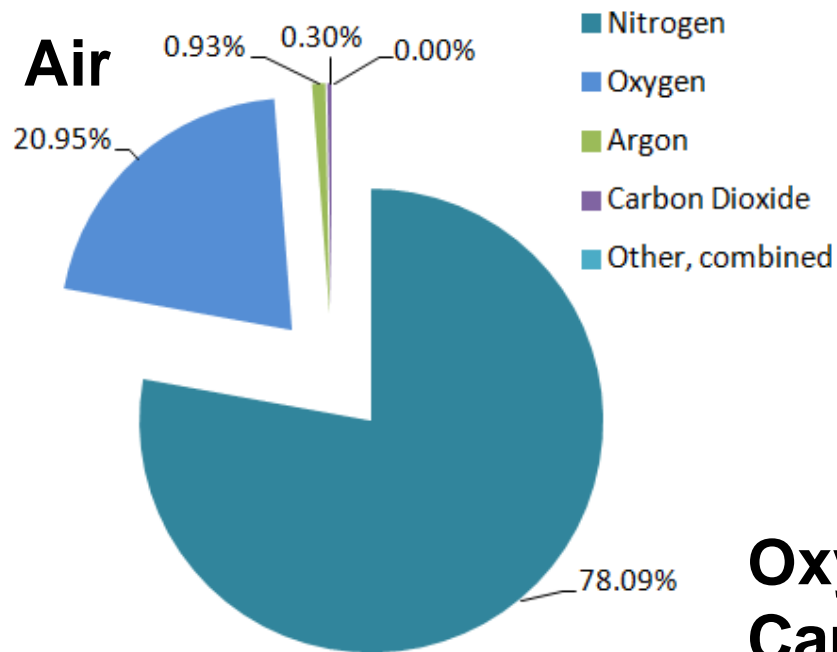
**Hydrogen sulfide gas**

Density = 1.2

1 ppm TLV/TWA  
100 ppm IDLH

4-44%

# Air Monitoring



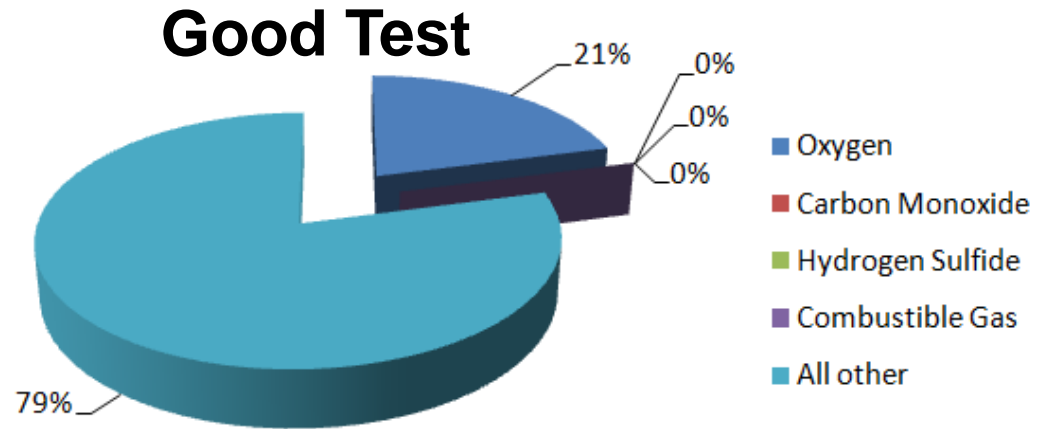
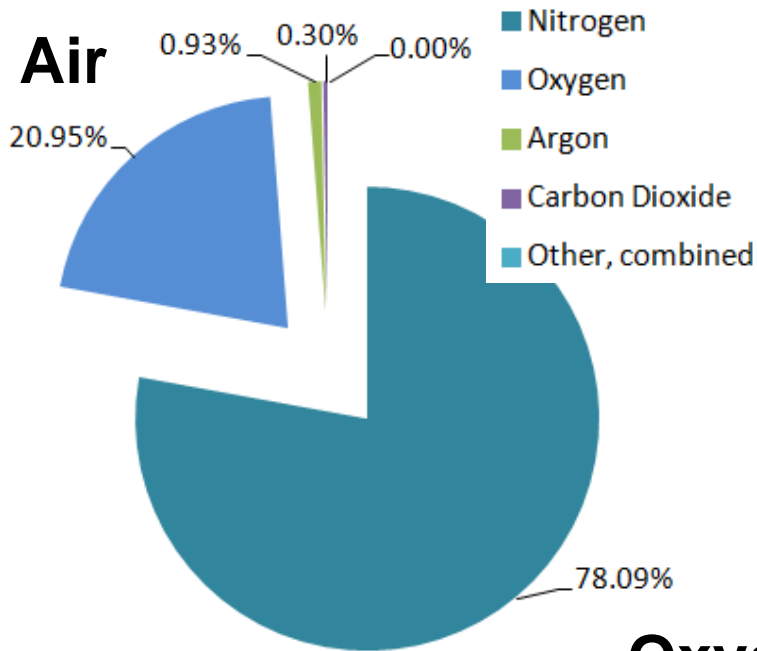
**Oxygen 19.5-23.5%**  
**Carbon Monoxide PEL 35 ppm**  
**Hydrogen Sulfide PEL 1 ppm**  
**Combustible Gas 10% of LEL**

PEL Permissible Exposure Limit

LEL Lower Explosive Limit

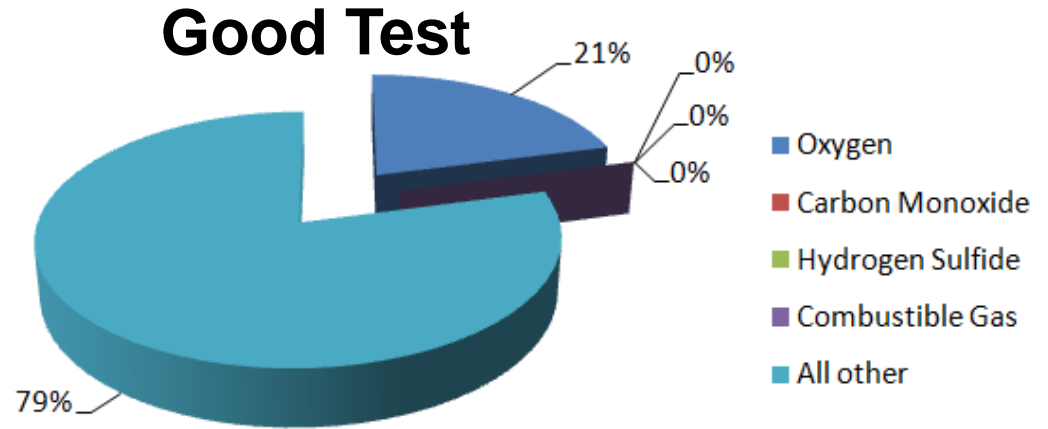
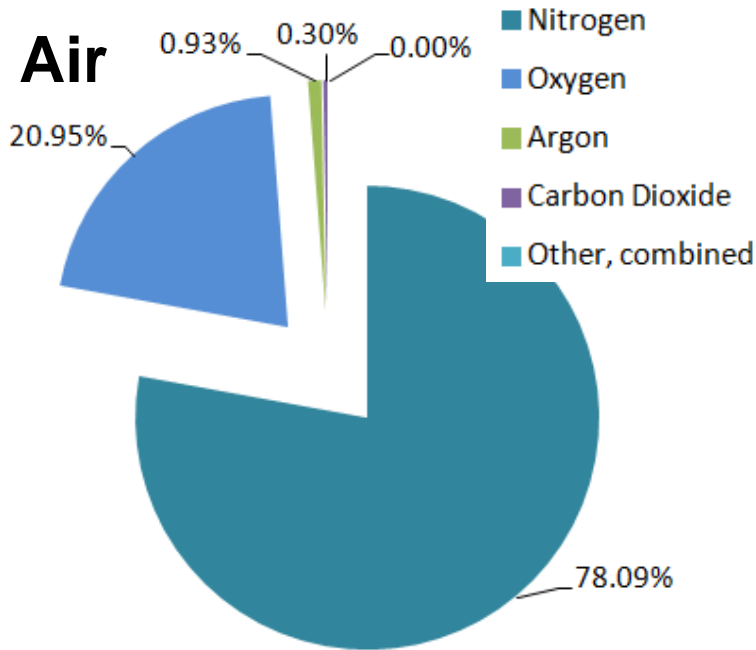


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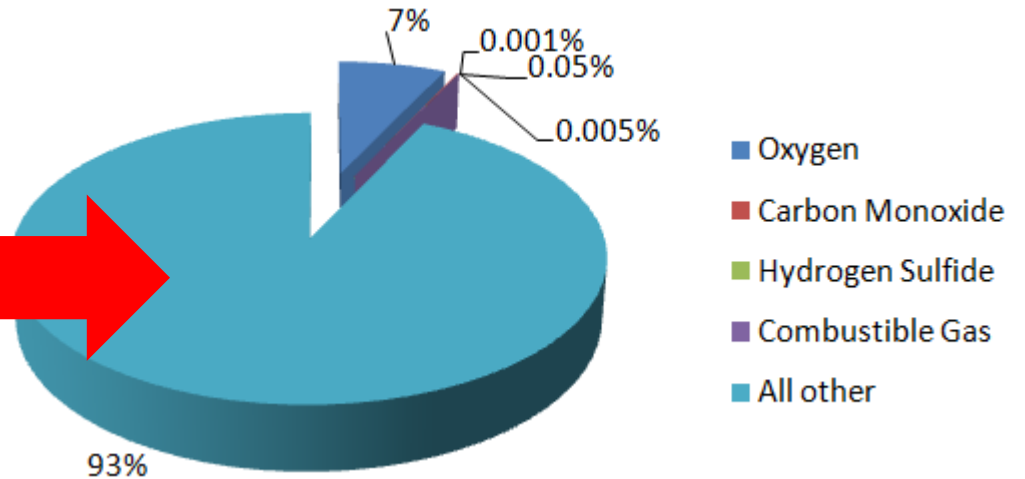


**Oxygen 19.5-23.5%**  
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**Combustible Gas 10% of LEL**

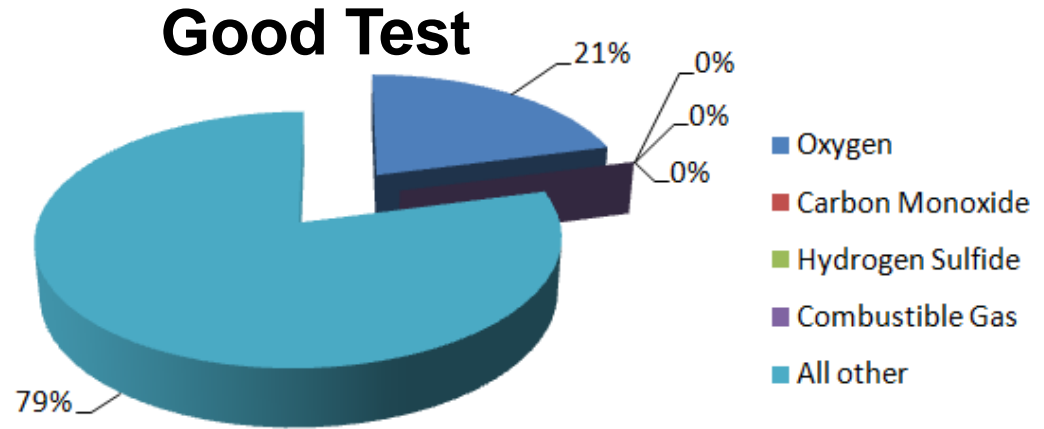
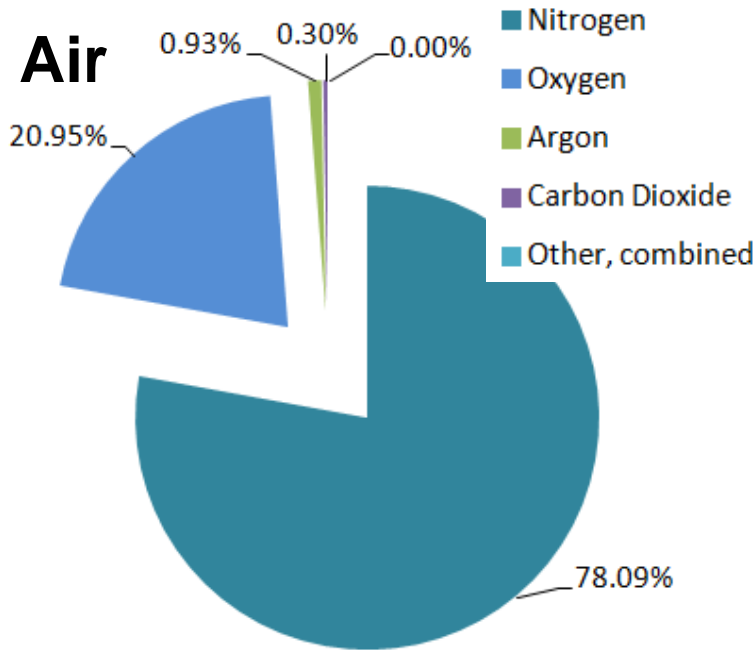
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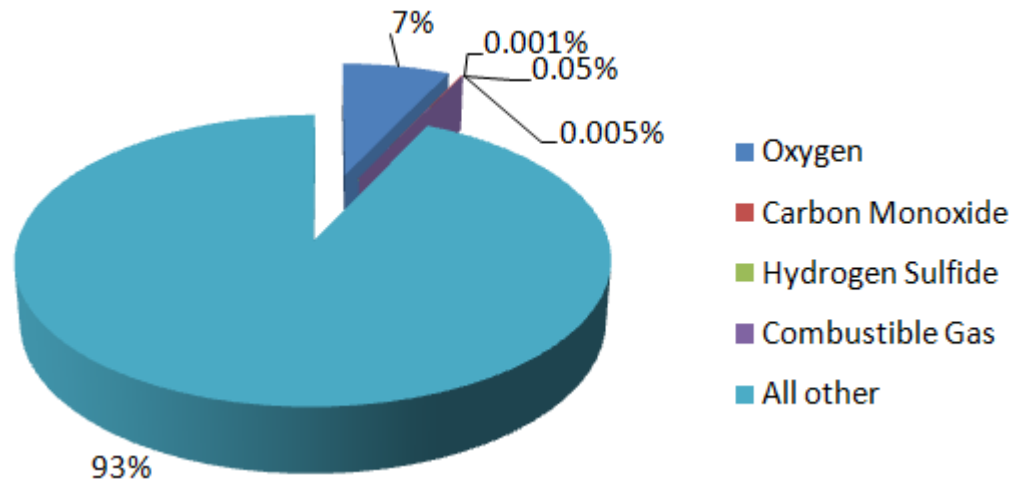
Something is wrong...



# Air Monitoring

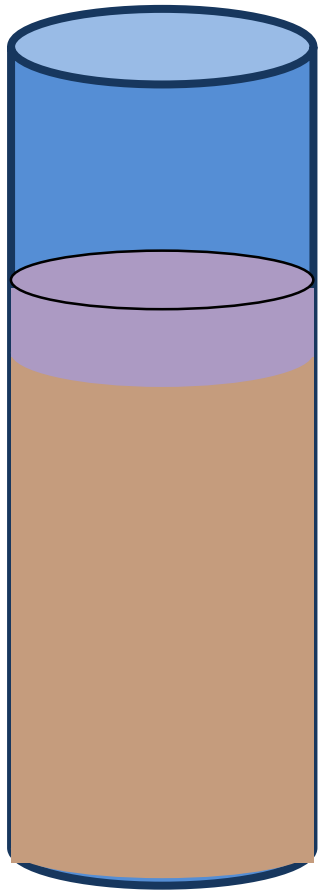


### Something is wrong...

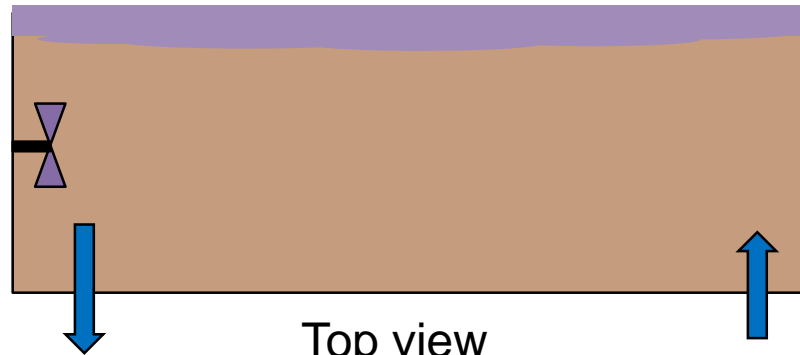


**If oxygen level is low, combustible gas measurement may be reading incorrectly.**

# Generation of Anaerobic Bacteria



Perspective view

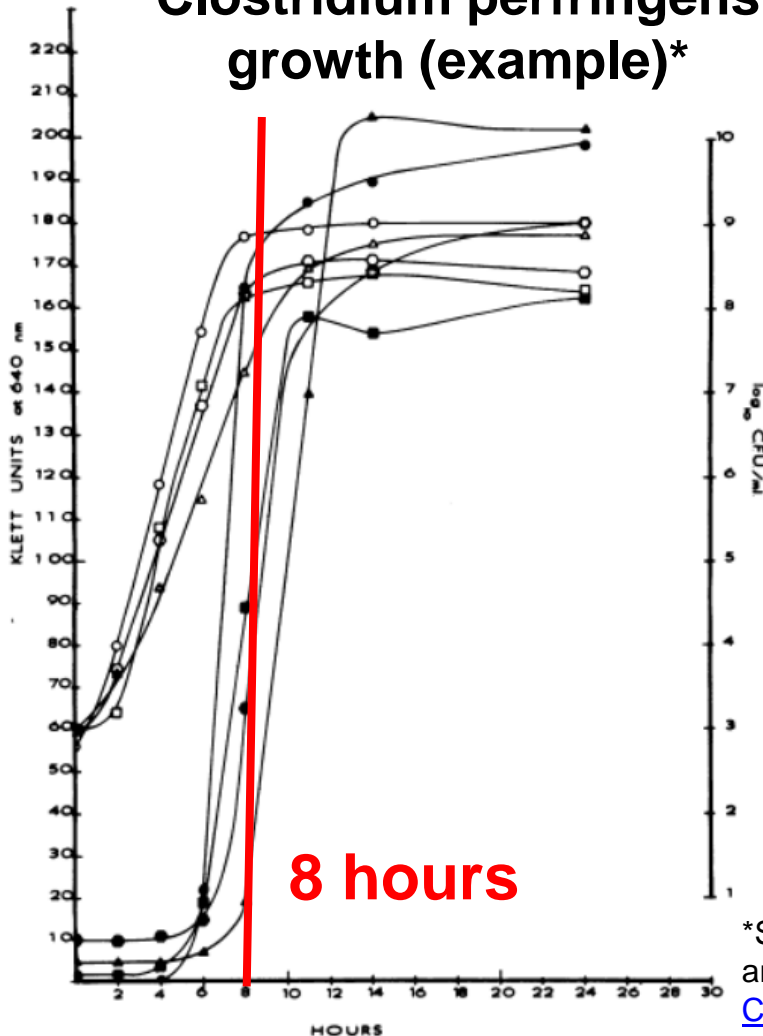


Top view

- Insufficient agitation
  - Worn agitator blades
  - Change in chest design
  - Insufficient horsepower
  - Power loss
- Dead spots in the tank or chest
- Layers of build up on air/stock interface

# Anaerobic Bacteria

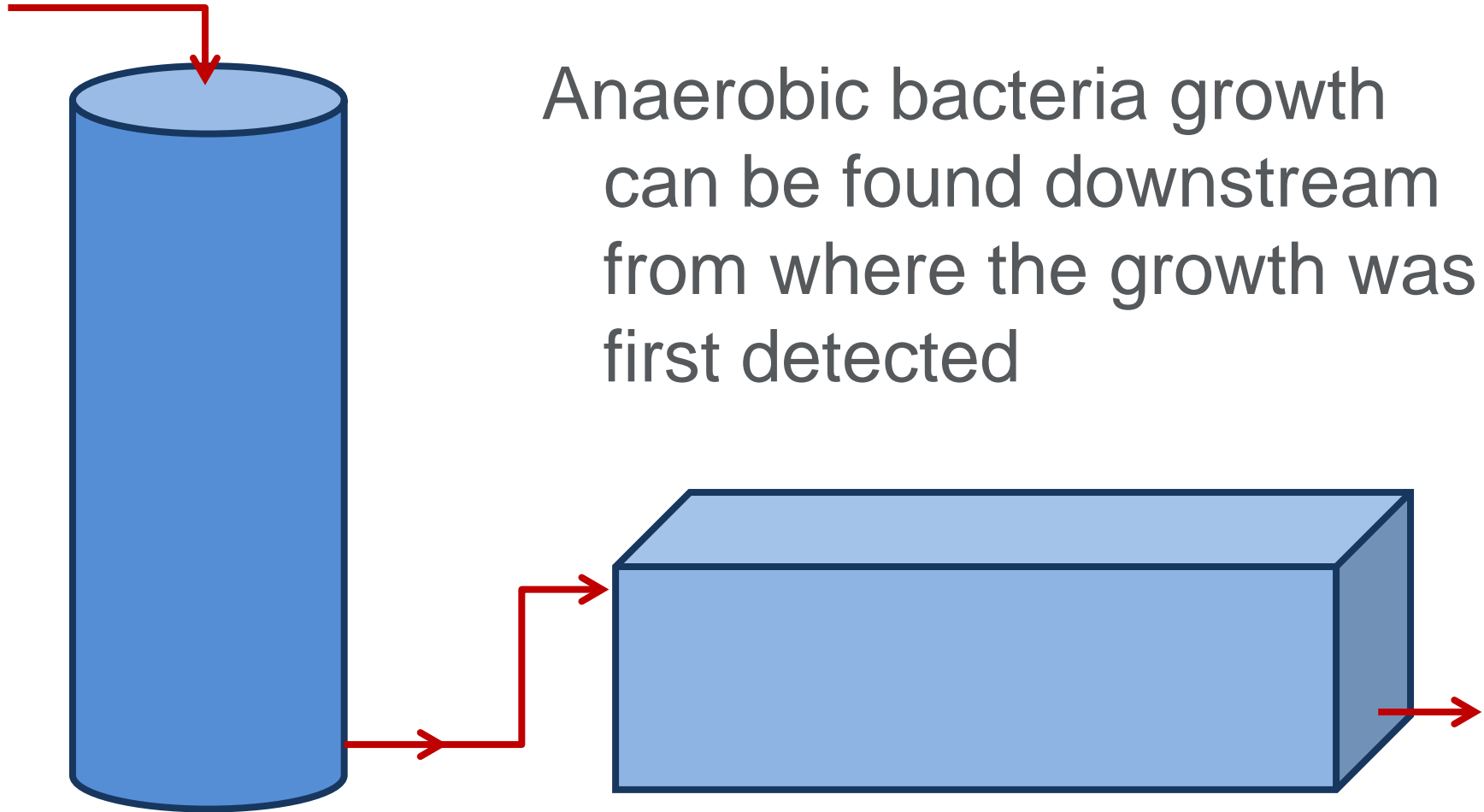
## *Clostridium perfringens* growth (example)\*



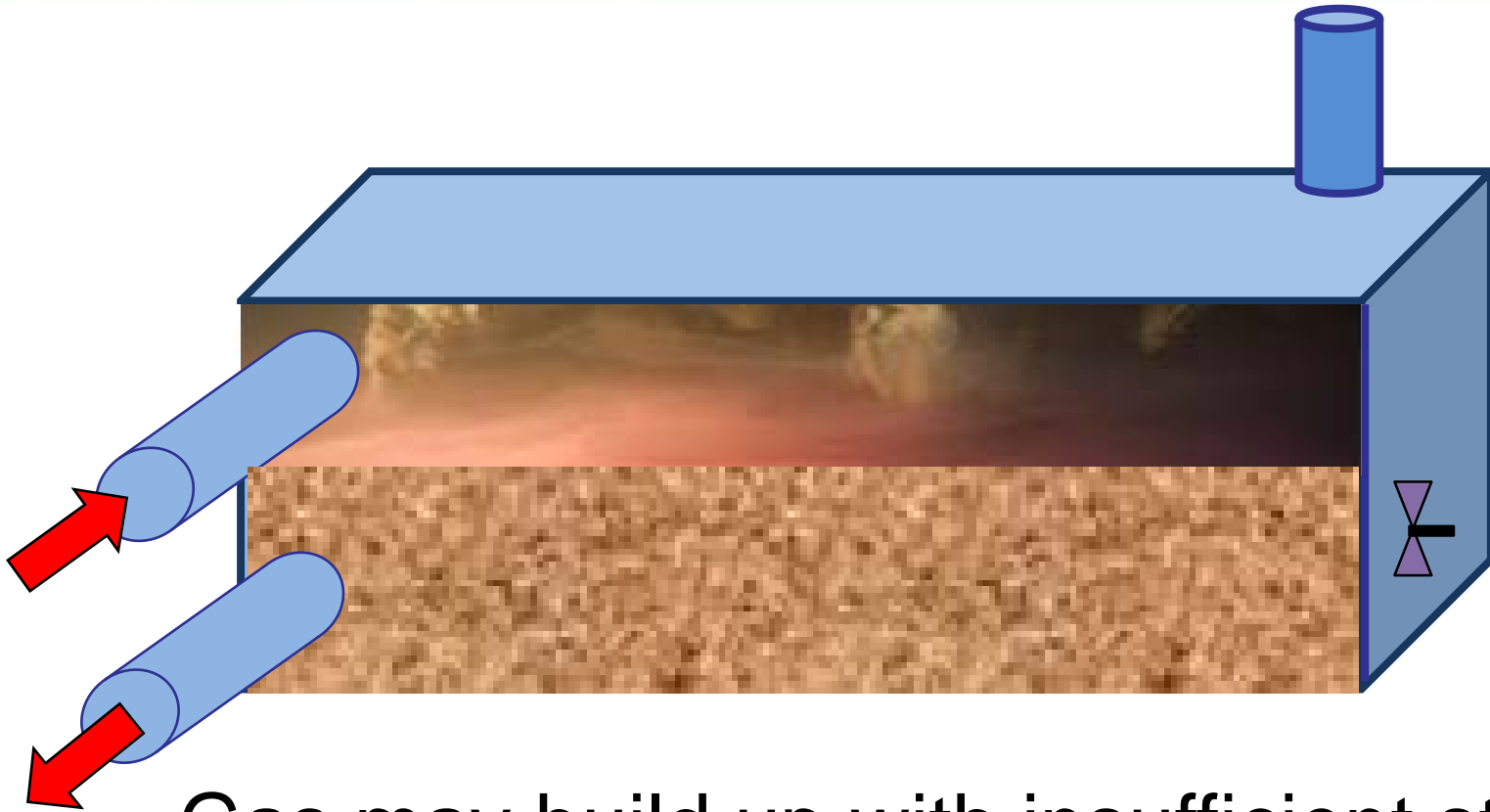
- Fast growth
- Exponential gas production
- Build up during run cycle
- Other by-products
  - Metal sulfides
    - Corrosion
    - Deposits
    - Blackening of stock or odor
  - pH drop due to acid release

\*Sottile, William and R.J. Zabransky, "Comparative growth rates of selected anaerobic species in four commonly used broth media," [Antimicrob Agents Chemother.](#) 1977 Mar; 11(3): 482–490.

# Anaerobic Bacteria

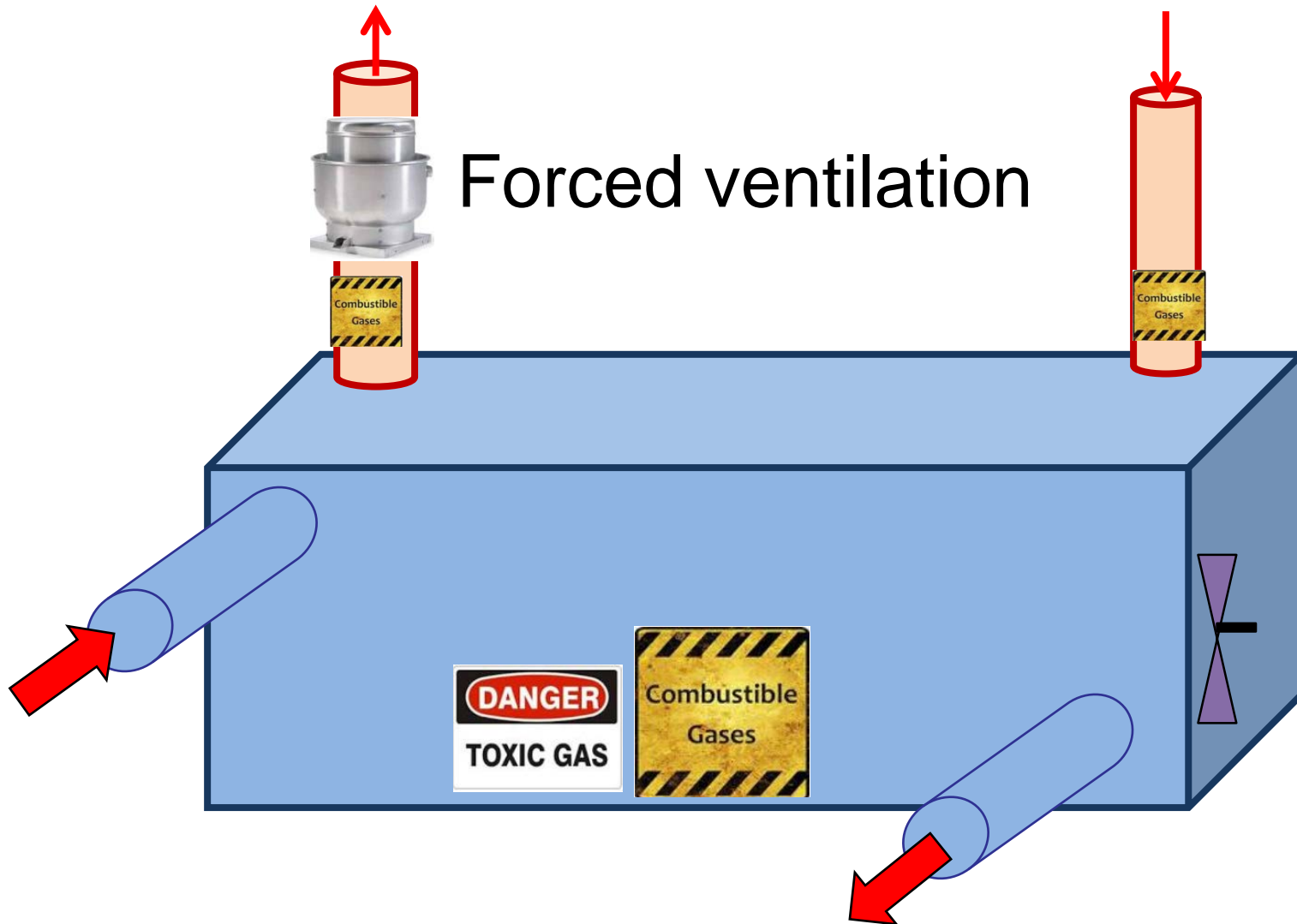


# Proper Chest Venting



Gas may build up with insufficient stock chest venting

# Proper Chest Venting





# In Summary

- Hot work permit
- Communication of hazards
- Air monitoring
- Generation of anaerobic bacteria
- Proper chest venting

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