

CASE STUDIES



CHEMTREC's 24/7 emergency response operations center handles calls from all around the world in almost any language. There are four basic steps that our Operations Center takes when handling any call:

We *Collect Key Information* about the caller, the situation facing them, and the parties involved, which in a transport situation would be the shipper, carrier, consignee, and supplier of the product involved. In the case of supply situations, the party involved is usually the supplier, who could be the product's manufacturer, distributor, reseller, importer, etc.

Once we have clarity on what the situation is, we provide advice aimed at protecting people, the environment, assets, and reputation. Depending on what product identifiers are available to the caller, for example the dangerous goods placarding, marking, and labeling and or the product trade name and supply labeling, we will **Provide Information** from generic sources such as the North American Emergency Response Guide or product-specific sources such as the supplier's Safety Data Sheet (SDS).

When providing information to the caller and discussing the situation, we often must *Connect Key Resources* to help the caller either make the situation safe or to implement incident remediation in a safe and efficient manner. Those key resources may include, among others, product experts with detailed knowledge of uncommon chemical formulations, poison centers with toxicological and medical expertise going far beyond the information available on an SDS, chemical industry mutual aid schemes for specific products, or Level 3 on-site cleanup assistance contractors.

The last step of our process is to **Notify & Report** the situation to all the parties involved who are CHEMTREC customers. In the vast majority of cases the immediate notification process involves a phone call to our customers' registered emergency contacts. All calls to our Operations Center are reported to our customers through a written case report issued within a few hours.



To illustrate this process, we have put together several examples demonstrating how the various options in our four step process fit together to provide world-leading Level 1 emergency response.

Collect Key Information

- Caller
- Incident
- Identify parties (shipper, manufacturer, consignee)

Provide Information

- Product specific (based on SDS)
- Generic (based on transport classification)

Connect Key Resources

- · Product experts
- Poison Center
- Mutual Aid Schemes
- Level 2/3 providers

Notify & Report

- All CHEMTREC customers involved
- Immediate notification (phone, text, email, mass communication)
- Written case report









LESS THAN TRUCKLOAD (LTL) SPILL

Collect Key Information

Caller: Carrier

Incident: Forklift punctured 55-gallon drum of flammable and toxic (class 3 and 6.1) product releasing 20 gallons in the trailer at the terminal.

Parties Involved: The shipper was a CHEMTREC customer (manufacturer of the product) and the carrier was also registered with CHEMTREC.

Provide Information

The carrier was aware of the general hazards of the products from the transport hazard classes, however our Emergency Services Specialist (ESS) sourced the Safety Data Sheet (SDS) and provided detailed product-specific information on the hazards, precautions, Personal Protective Equipment (PPE), clean-up method, and disposal information.

Connect Key Resources

In discussion with our ESS, the carrier did not want their staff to tackle the spill response and cleanup. Our ESS provided the carrier with the contact details of a Level 3 provider in the area who could respond to the spill.

Notify & Report

Immediately after the call from the carrier, our ESS phoned the shipper's emergency contacts and notified them of the situation involving their product.

A copy of the written case report was sent to both parties.







RAIL TRANSPORT GAS RELEASE

Collect Key Information

Caller: Fire Department

Incident: Significant leak of chlorine from the discharge valve of a tank railcar close to a residential area.

Parties Involved: The shipper was a CHEMTREC customer (manufacturer of the product).

Provide Information

Our ESS provided information from resources such as the Emergency Response Guide (ERG) for initial isolation distances as well as protection distances for the population downwind of the release. Our ESS also provided product-specific information from the manufacturer's Safety Data Sheet to help the fire department conduct their dynamic risk assessment.

Connect Key Resources

Our ESS initiated a conference call between the fire department and the shipper or manufacturer's product experts. It was decided that the CHLOREP mutual aid scheme should be invoked. Our ESS initiated the scheme, ensuring that the appropriate response support was deployed to the scene.

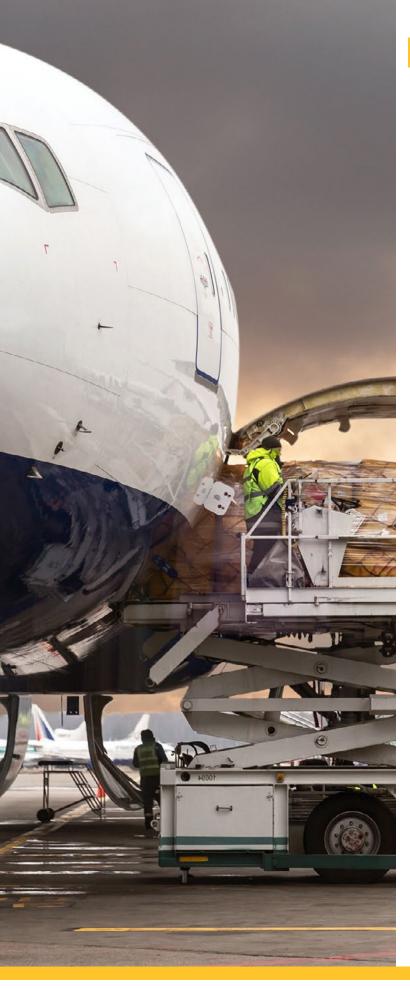
Notify & Report

Beyond notifying and involving the shipper or manufacturer's product experts, our ESS also activated the shipper or manufacturer's crisis management teams at a corporate level using mass communications. Beyond the initial mass notification, we provided support through the CHEMTREC Crisis Hub, a site used to support the ongoing coordination and management of the response at a site, area, and corporate level allowing the organization to share incident intelligence and updates, set, and track critical tasks and coordinate meetings.

A copy of the written case report was sent to the shipper or manufacturer.







LITHIUM BATTERY FIRE ON CARGO PLANE

Collect Key Information

Caller: Airport Fire Department

Incident: A box of lithium-ion batteries for mobile phones was damaged while being unloaded leading to a fire in the hold.

Parties Involved: The mobile phone manufacturer, who was not the manufacturer of the batteries, was a CHEMTREC customer.

Provide Information

As the airport fire department knew how to fight lithium-ion battery fires, our discussion focused on hazard information related to the health effects of the combustion and decomposition products given the specific chemistry of the batteries. We based our discussion on the SDS from the battery manufacturer, which the mobile phone manufacturer had registered with us.

Connect Key Resources

Our ESS called the mobile phone manufacturer logistics department for help in identifying the exact battery models present in the shipment to ensure that we were basing our information on the right SDS.

Notify & Report

The mobile phone manufacturer was called for notification and subsequently received a written case report.





SPILL AT A FURNITURE MANUFACTURING PLANT

Collect Key Information

Caller: Furniture Manufacturing Plant

Incident: The rupture of a pipe caused the release of several hundred liters of flammable adhesive in an enclosed area of the plant.

Parties Involved: The manufacturer of the adhesive was a CHEMTREC customer.

Provide Information

Using the manufacturer's SDS and considering the resources available to the caller, we proposed a plan of action to promote fire safety and clean up the spill. During the conversation, it became apparent that the staff at the plant did not have the spill response training and equipment necessary to handle the situation safely.

Connect Key Resources

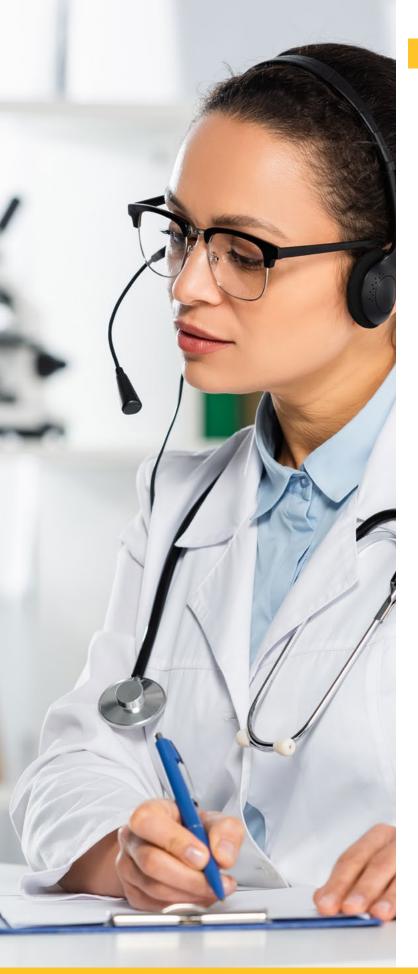
We recommended to call the fire department to make the situation safer and provided the contact details of a Level 3 provider in the area who would be able to clean up the spill properly.

Notify & Report

The adhesive manufacturer was notified by phone and subsequently received a written case report.







MEDICAL ADVICE FOR HUMAN EXPOSURE

Collect Key Information

Caller: Spanish-speaking doctor from the Accident and Emergency Department of a major hospital in Mexico

Incident: Two construction workers had been accidentally exposed to a solvent through inhalation and skin contact.

Parties Involved: The manufacturer of the solvent was a CHEMTREC customer.

Provide Information

After connecting a Spanish interpreter, we identified the manufacturer and product name and located the SDS.

Connect Key Resources

We connected the caller and interpreter to our poison center partner and provided them with the SDS. Our poison center partner provided the required medical advice related to treatment strategies and possible interactions with the medicines taken by one of the patients for an unrelated chronic condition.

Notify & Report

The manufacturer was notified by phone and subsequently received a written case report.



