



# Lower tier sites Establishments and major accidents

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# The Major Accident Hazards Bureau (MAHB) project

The **Major Accident Hazards Bureau (MAHB)** is an office within the **European Commission's Joint Research Centre (EC-JRC)**. We provide scientific and technical support for policy associated with **chemical safety and security**.

We work with European Union (EU) policy entities within the EC, especially the **Directorate General – Environment (DG-ENV)**, to implement the **EU Seveso Directive** for the control of major chemical accident hazards.

**We work with EU policy leaders in the area of disaster risk reduction and crisis management (DG-ECHO) to support impact analysis** (DG-ECHO) related to accident scenarios as well as real time events and capacity building for CBRN risk management in EU neighbour countries and third countries (**DG-DEVCO and DG-NEAR**)

We collaborate with **the OECD Working Group on Chemical Accidents for over 35 years** to support improvement in chemical accident prevention and preparedness globally, as well as other international organisations, especially **UNECE** and **UN Environment**.

We manage EC obligations to collect and analyse EU Member State **data on chemical accidents to support lessons learning** and also manage reporting of information on **EU hazardous (Seveso) sites**



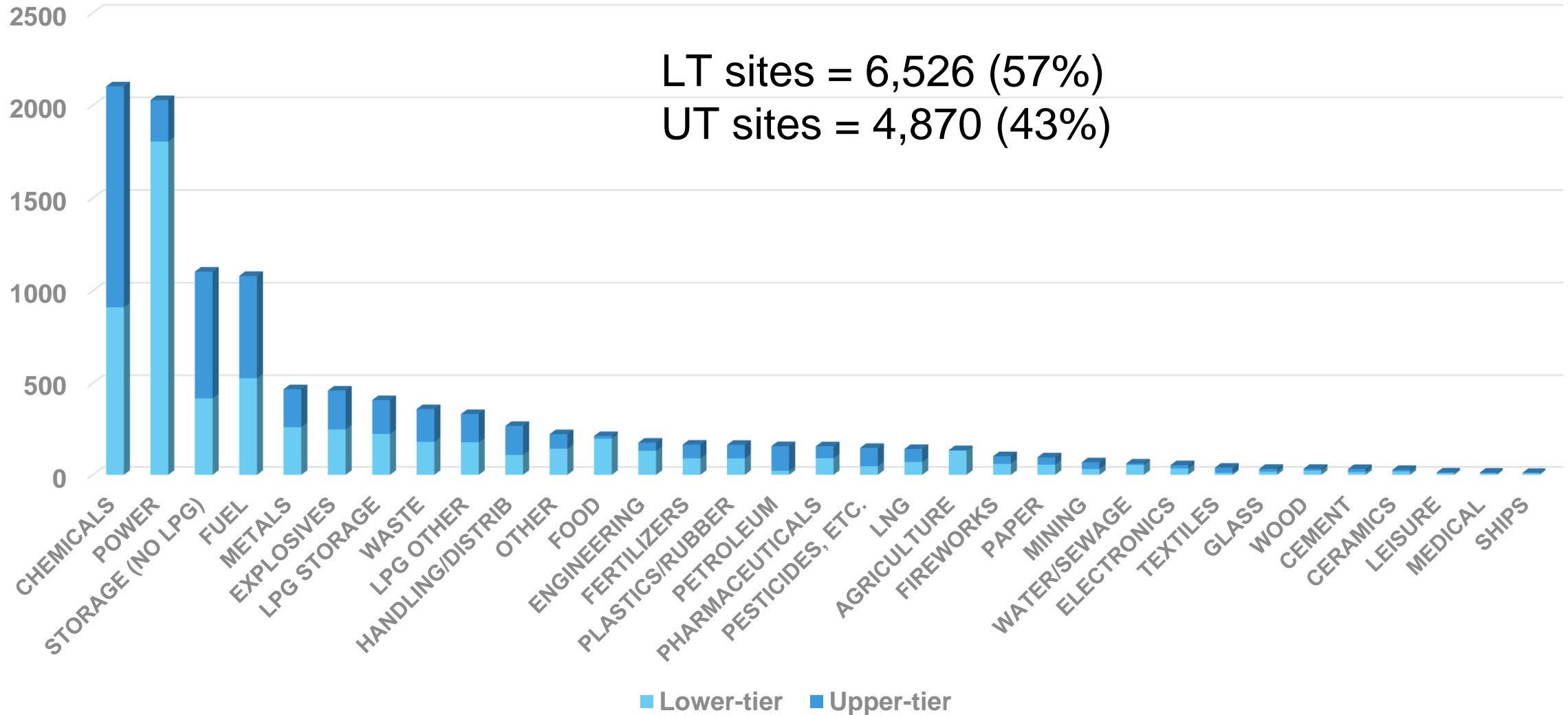
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# Outline of the presentation

- Lower tier vs upper tier sites by industry type in eSPIRS
- Major accidents by industry type and Seveso status

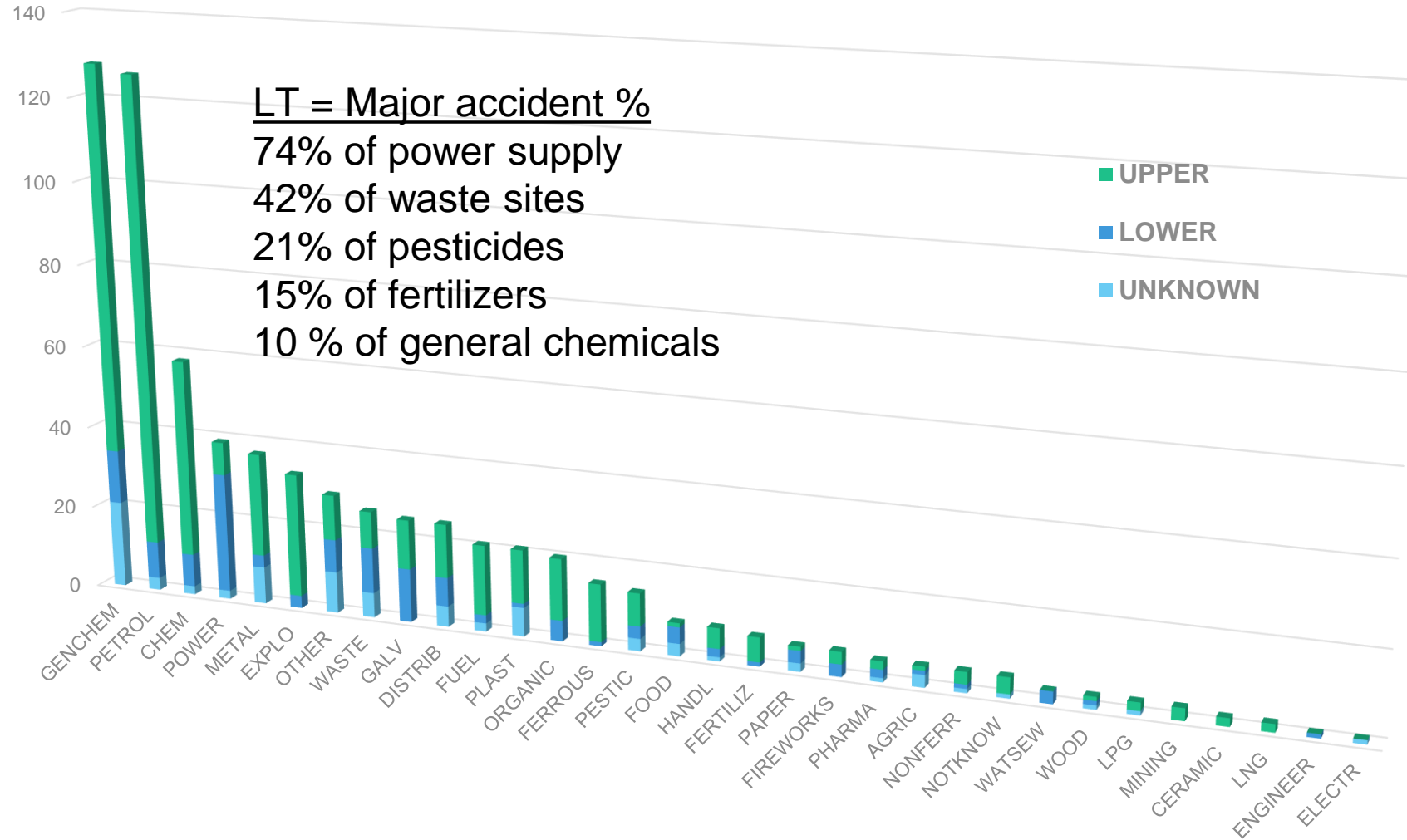
# Seveso establishments industry type – Lower vs upper tier

## October 2023



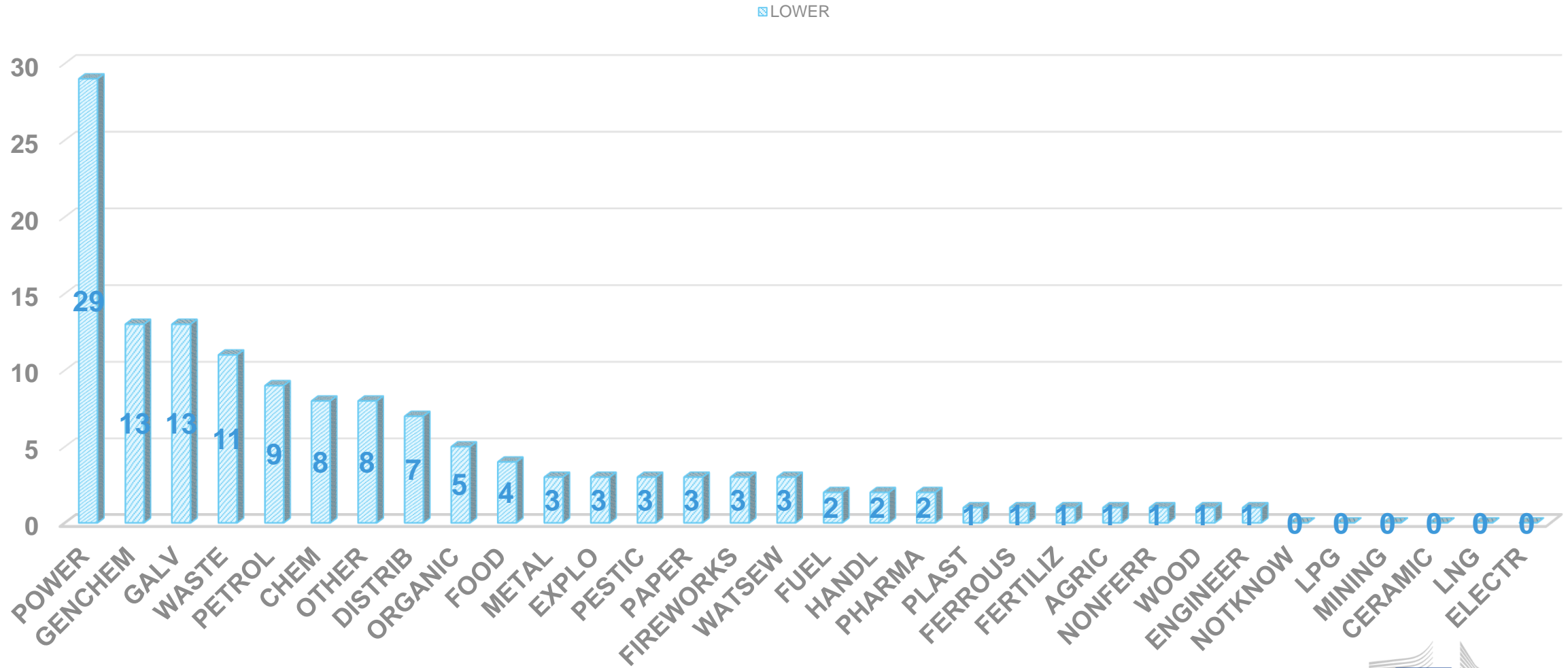
# eMARS Major accidents since 2000

## October 2023



# eMARS Major accidents since 2000 – Lower tier sites only

## October 2023



# eMARS selected reports 2022-2023 – Major accidents (Fatalities)

INCIDENT	DATE	Pub?	INDUSTRY	KEY FACTORS	LL TYPE	SIGNIFICANCE
Explosion and fire in hydrodesulphurization	2022-09-27	N	Petroleum refinery (UT)	During startup; cause not yet known		2 workers died
Explosion in tanks containing oils and other products	22-05-26	Y	General chemicals production (UT)	Hot work (welding)	1	2 contractors died
Explosion in a resin manufacturing facility	2022-05-12	Y	Chemical installation (UT)	Incompatible mixture	1	7 worker deaths, 25 injuries
Explosion in explosive packaging unit	2022-03-21	Y	Explosives production (UT)	Not yet known		4 worker deaths
Explosion during dynamite production	2022-02-14	N	Explosives production (UT)	Decomposition or instability	1	2 worker deaths
Release of phosgene	2022-01-25	Y	Pesticide production (UT)	Wrong maintenance procedure	1	1 worker death

# eMARS selected reports 2022- 2023 - Major accidents (Releases)

INCIDENT	DATE	Pub?	INDUSTRY	KEY FACTORS	LL TYPE	SIGNIFICANCE
Fire of an ISO overseas container	2022-08-23	N	Port terminal (UT)	Not yet known		SO2 release, 16 injured, multi-day response
Release of hydrogen sulphide in shutdown	2022-03-26	Y	Petroleum refinery (UT)	Unauthorised opening of line	1	1 contractor death; 1 contractor injury
Fire & explosion in HF alkylation unit	2022-03-12	N	Petroleum refinery (UT)	Hot work	1	Release of hydrogen fluoride >5% of threshold; 2 injuries
Release of nitric acid	2022-06-15	N	Chemical installation (UT)	Not yet known		Release of nitric acid >5% of threshold amount
Release of raw nitrile	2023-01-20	N	Acrylonitrile production	Not yet known		2,500 kilos of raw nitrile escaped
Release of nickel compounds	2022-04-13	N	Packaging installation (UT)	Defective part	2	Release of nickel > 5% of threshold amount
Release of crude oil	2022-12-17	N	Chemical installation (UT)	Incorrectly installed cable	2	Release of crude oil > 5% of threshold amount
Leakage of crude oil from a pipeline	2022-05-05	N	Petroleum refinery (UT)	Erosion/corrosion	2	Release of crude oil > 5% of threshold amount
Explosion in exhaust air system	2022-01-20	N	Pharmaceutical raw materials (UT)	Not yet known		Release of flammable gases >5% threshold amount



## eMARS selected reports 2022- 2023 - Major accidents (Property damage)

INCIDENT	DATE	Pub?	INDUSTRY	KEY FACTORS	LL TYPE	SIGNIFICANCE
Storm damage at fuel depot	2023-02-09	Y	Fuel depot	Natech incident	6	> €2,000,000 property damage
Fire in a waste recycling plant	2022-08-25	N	Waste recycling (UT)	Not yet known		> €2,000,000 property damage
Fire in a thermal disposal facility	2022-08-21	N	Waste disposal facility (UT)	Ignition of nitrocellulose waste	4	> €2,000,000 property damage
Fire on wood chip feed belts	2022-07-01	N	Pulp factory (UT)	Not yet known		> €2,000,000 property damage

# eMARS selected reports 2022- 2023 - Major accidents (Biogas)

INCIDENT	DATE	Pub?	INDUSTRY	KEY FACTORS	LL TYPE	SIGNIFICANCE
Biogas leak in a wastewater treatment plant	2022-10-10	N	Biofuel production (Waste treatment) (UT)	Valve open instead of closed		Release of biogas >5% threshold amount
Fire in gas storage facility	2022-05-13	N	Biogas plant (LT)	Unrepaired crack in the gas storage roof	2	Release of biogas >5% threshold amount
Release of raw biogas from biogas facility	2022-02-19	N	Biogas plant (LT)	Natech	6	Release of biogas >5% threshold amount
Release of raw biogas from biogas facility	2022-02-17	N	Biogas plant (LT)	Natech	6	Release of biogas >5% threshold amount
Release of raw biogas from biogas facility	2022-01-29	N	Biogas plant (LT)	Natech	6	Release of biogas >5% threshold amount

# Thank you

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