Processing Plant Hazards: From Pinch Points to Chemical Burns Stats and Facts

FACTS

1. **Pinch-Point Entrapment:** Conveyors, rollers, mixers, and packaging lines create in-running nip points that can trap hands, clothing, or hair in seconds.
2. **Unexpected Start-Up:** Equipment can energize during clearing jams or maintenance if lockout isn’t complete, pulling workers into moving parts.
3. **Chemical Splash & Contact:** Acids, caustics, sanitizers, and process chemicals can burn skin and eyes during transfer, mixing, or cleaning tasks.
4. **Corrosive Leak Exposure:** Aging pipes, valves, and seals can fail, releasing corrosive liquids or vapors that cause burns and inhalation injury.
5. **Thermal Burns:** Steam lines, hot surfaces, and heated vessels can cause severe contact burns during routine operations and maintenance.
6. **Slip Hazards from Process Fluids:** Oils, fats, water, and product residues on floors reduce traction around lines and washdown areas.

STATS

- The Bureau of Labor Statistics reports thousands of annual injuries in food, chemical, and materials processing tied to contact with machinery and hazardous substances (2021–2023).
- U.S. data show hundreds of amputations each year linked to machinery contact—many involving conveyors and processing equipment (OSHA severe injury reports).
- In Canada, forklifts contribute to about 10% of workplace fatalities and 5% of serious injuries annually (2020-2025),

with operator distraction (e.g., mobile phones) and fatigue from long shifts linked to 10-25% of incidents in warehousing.

- Approximately 70% of US forklift accidents are preventable with proper training and awareness, including defensive driving techniques to counter distraction and fatigue-related errors.
- Chemical burns and corrosive exposures account for tens of thousands of nonfatal workplace injuries annually in the U.S., with manufacturing and processing among the highest-risk sectors (BLS).