24
26

CITY AT THE CENTER
WEST ALLIS

City of West Allis
Matter Summary

7525 W. Greenfield Ave.
West Allis, WI 53214

File Number	Title	Status
2006-0722	Communication	In Committee

West Allis Fire Department Fire Prevention Bureau communication regarding propane facilities in the City of West Allis.

Introduced: 12/19/2006 **Controlling Body:** Safety & Development Committee

COMMITTEE RECOMMENDATION File

ACTION DATE: 12/19/06

	MOVER	SECONDER	AYE	NO	PRESENT	EXCUSED
Barczak			✓			
Czaplewski						
Dobrowski						
Kopplin						
Lajsic			✓			
Narlock						
Reinke	✓		✓			
Sengstock						
Vitale						✓
Weigel		✓	✓			
TOTAL			4	0		1

SIGNATURE OF COMMITTEE MEMBER

Chair _____ Vice-Chair _____ Member _____

COMMON COUNCIL ACTION **PLACE ON FILE**

ACTION DATE: DEC 19 2006

	MOVER	SECONDER	AYE	NO	PRESENT	EXCUSED
Barczak			✓			
Czaplewski			✓			
Dobrowski		✓	✓			
Kopplin			✓			
Lajsic	✓		✓			
Narlock			✓			
Reinke			✓			
Sengstock			✓			
Vitale exc						✓
Weigel			✓			
TOTAL			9	-	-	1

WEST ALLIS FIRE DEPT.

BUREAU OF FIRE PREVENTION
MARTIN M. KING
ASSISTANT CHIEF
RICK GALE
LIEUTENANT

CITY CENTENNIAL
1906-2006

December 14, 2006

Report on Propane Facilities within the City of West Allis

The explosion and subsequent fire at Falk Corporation in Milwaukee on December 6, 2006 has lead to numerous questions regarding propane facilities within the City of West Allis. This has lead to a review of State and local requirements for propane facilities; including requirements for installation, inspection and maintenance. This report will address the locations of bulk propane facilities, information regarding propane, and requirements regarding these installations.

Bulk Propane Locations:

The following identifies locations of propane facilities and the amounts of propane:

Milwaukee Ductile Iron, Inc.
1706 South 68th Street
2 – 60,000 gallon above- ground storage tanks. These tanks are protected by fire suppression system designed to provide a water curtain on the tanks to cool them and prevent a rupture. This is in the event of damage to the tanks or piping in the immediate area that results in a fire. This would not prevent an explosion in the event of a leak only.

Unit Drop Forge
1903 South 62nd Street
2 – 30,000 gallon above ground storage tanks. These tanks are not protected by a fire suppression system.

Quad Graphics
555 South 108th Street
1 – 6,000 gallon above ground storage tank. This tank is not protected by a fire suppression system. They have stated that they are looking to phase out us of this tank and have it removed.

Langer Roofing & Sheet Metal
345 South Curtis Road
2 – 1,000 gallon above ground storage tanks. 1 – 500 gallon above ground storage tank. 3 – 500 gallon portable storage tanks (less than 20% full due to weight and travel restrictions). These tanks are not protected by a fire suppression system.

U-Haul
924 South 108th Street
2 – 1000 gallon above ground storage tanks. These tanks are not protected by a fire suppression system.

Wisconsin DOT Building
935 South 60th Street
1 – 1,000 gallon above ground storage tank. This tank is not protected by a fire suppression system.

Centerpointe Properties
2075 South 114th Street
1 – 1,000 gallon above ground storage tank. This tank is not protected by a fire suppression system.

All of the systems listed above, with the exception of Wisconsin DOT building and Pack-N-Go, were listed within our fire inspection records. The State of Wisconsin requires that all installations of liquefied petroleum gas (LP-Gas or Propane) in containers of 125 gallons or larger water capacity shall complete a certificate of installation. That certificate shall be kept with the installation and be available for review. Installations using containers of 2,000 gallons or larger water capacity or having an aggregate of 4,000 gallons or larger, a copy of the installation form shall be submitted to the local fire department within 10 business days of installation.

There are numerous locations where propane cylinders are used for powering equipment (such as forklifts) and where cylinder exchange storage cages for residential use throughout the City of West Allis. We will be working on documenting these locations for compliance with City of West Allis Municipal Code requiring permits for temporary and permanent LP- Gas storage installations.

Propane Facts:

Propane is a hydrocarbon (C3H8) and is sometimes referred to as liquefied petroleum gas, LP-gas or LPG. Propane is nontoxic, colorless and virtually odorless. As with natural gas, an identifying odor is added so the gas can be readily detected. Propane has a narrow range of flammability when compared with other petroleum products. In order to ignite, the propane/air mix must contain 2.2 to 9.6 percent propane vapor. If it is less 2.2 percent it is too lean to burn and if it contains more than 9.6 percent it is too rich to burn. If liquid propane leaks, it doesn't puddle but instead vaporizes and dissipates into the air. However, propane is heavier than air and can collect in low areas. Flashback along a vapor trail is possible. Please refer to Appendix A for information regarding propane from the Propane Education & Research Council and the Material Safety Data Sheet (MSDS) for odorized propane from AmeriGas.

Requirements for Bulk Propane Installations:

The State of Wisconsin Department of Commerce has adopted NFPA 58, *Liquefied Petroleum Gas Code*, 2004 Edition for the design, construction, location, installation, operations, repair and maintenance of equipment for gas systems. There is no current national or state requirement for the inspection and testing of these system. They require that there are written maintenance procedures for maintaining the mechanical integrity of the systems. This information shall be kept in maintenance manuals. These manuals shall include routine inspections and preventative maintenance procedures and schedules.

The Bureau of Fire Prevention and Urban Affairs is required by the State of Wisconsin to conduct fire inspections of all public buildings and places of employment at least once in each non-overlapping 6-month period. Past inspections of these tanks included inspecting for vehicle crash protection, maintaining security of system components from tampering, and proper identification and marking of tanks for emergency response crews.

In addition to the inspection procedures of the past, we will incorporate requesting information on the written maintenance procedures, routine inspections, preventative maintenance procedures and schedules, and review of plans for the inadvertent release, fire or security breach.

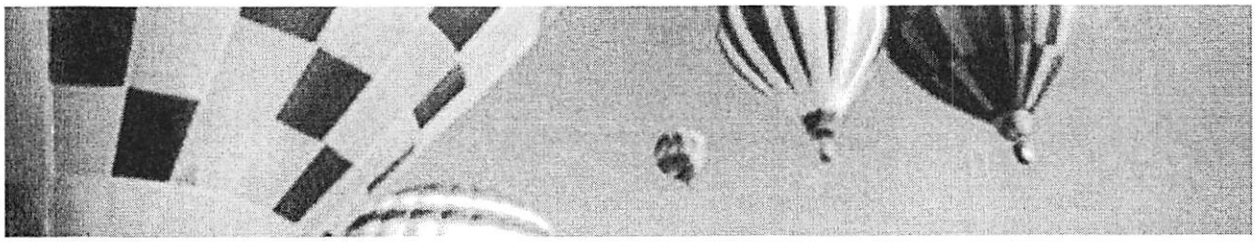
Appendix A:

Propane Fact Sheet: Propane Education & Research Council

Material Safety Data Sheet for Odorized Propane

Milwaukee Journal Sentinel Article: Falk Plant Explosion

Waukesha Freeman Article: Waukesha Propane Leak



Newsroom & Events

BACK

FACT SHEETS

Propane Facts

Propane is a hydrocarbon (C3H8) and is sometimes referred to as liquefied petroleum gas, LP-gas or LPG. Propane is produced from both natural gas processing and crude oil refining. It is nontoxic, colorless and virtually odorless. As with natural gas, an identifying odor is added so the gas can be readily detected.

Propane Is a Safe Fuel

The propane industry has developed numerous methods to make the transport and use of propane safe:

- Propane equipment and appliances are manufactured to rigorous safety standards.
- Propane has a narrow range of flammability when compared with other petroleum products. In order to ignite, the propane/air mix must contain from 2.2 to 9.6 percent propane vapor. If the mixture contains less than 2.2 percent gas, it is too lean to burn. If it contains more than 9.6 percent, it is too rich to burn.
- Propane won't ignite when combined with air unless the source of ignition reaches at least 940 degrees Fahrenheit. In contrast, gasoline will ignite when the source of ignition reaches only 430 to 500 degrees Fahrenheit.
- If liquid propane leaks, it doesn't puddle but instead vaporizes and dissipates into the air.
- Because it is released from a pressured container as a vapor, propane can't be ingested like gasoline or alcohol fuels.
- Because propane is virtually odorless and colorless in its natural state, a commercial odorant is added so propane can be detected if it leaks from its container.

Safety Starts with Education

The propane industry is also engaged in ongoing efforts to increase safety in the handling, use and maintenance of propane and propane equipment:

- The National Propane Gas Association (NPGA) offers an award-winning preventive maintenance program called GAS Check® (Gas Appliance System Check). Trained technicians inspect entire propane systems and appliances to ensure they are running safely and efficiently, so consumers can save money and enjoy a healthy environment. The program also educates homeowners on the proper maintenance of propane appliances and how to safely handle propane.
- The Certified Employee Training Program (CETP) is a nationally recognized training program for people involved in the handling of propane, equipment and appliances. The CETP is being used extensively throughout the country and is continually updated and expanded.
- The NPGA, with funding from the Propane Education & Research Council, has developed a new comprehensive training program for America's public safety agencies and propane retailers. The educational package includes a 220-page textbook, Propane Emergencies, which has been sent free to every fire department in the country. The objectives of the emergency response program are to increase the level of responder safety, improve

efficiency to mitigate emergencies and to encourage propane marketers and local emergency responders to develop working relationships before an accident occurs.

- Each year, thousands of industry employees and firefighters attend service and safety schools sponsored by the industry. The sessions provide important training in how to quickly control and safely handle a propane emergency.
- In 2002, the Propane Education & Research Council developed the Compliance Program consolidating all federal OSHA, DOT, and EPA compliance information in one, easy to understand program. The Compliance Program consists of two key components: a guidebook and an accompanying curriculum handbook. The guidebook takes the information set forth by OSHA, DOT, and the EPA and puts it into simple, concrete explanations of what is required of propane marketers for regulatory compliance. The training handbook, along with an interactive CD, educates and trains propane marketers and their employees on the handling and transporting of propane in accordance with OSHA and DOT regulations.

Propane Is an Environmentally Friendly Fuel

- Propane is an approved, clean fuel listed in the 1990 Clean Air Act as well as the National Energy Policy Act of 1992.
- Propane is one of the lightest, simplest hydrocarbons in existence, and, as a result, is one of the cleanest burning of all fossil fuels. New propane-fueled vehicles can meet the very tough Ultra-Low Emission Vehicle (ULEV) standards, and one model even meets the Super Ultra-Low Emission Vehicle (SULEV) standards.
- Burning coal to generate electricity releases carbon dioxide and other pollutants into the atmosphere. Per pound of fuel burned, coal emits more than twice the amount of carbon dioxide as does propane. By using propane gas instead of electricity, consumers can cut emissions and help preserve the environment.
- Propane gas is nontoxic, so it's not harmful to soil and water. Because propane does not endanger the environment, the placement of propane tanks either above or below ground is not regulated by the Environmental Protection Agency (EPA).
- According to the EPA, much of the sulfur dioxide in the atmosphere, which produces acid rain, is attributable to coal-fired, electricity-generating facilities. In contrast, neither the process by which propane is produced nor the combustion of propane gas produces significant acid rain contaminants.

Propane Is a Good Value

- Overall, propane fuel for fleet vehicles typically costs less than conventional or reformulated gasoline. Many states offer fuel tax incentives to encourage the use of clean fuels, thus further reducing operating costs.

Propane Is a Versatile Fuel

Propane is used by millions of people in many different environments—homes, industry, farming and more.

- More than 14 million families use propane to fuel their furnaces, water heaters, air conditioners, outdoor grills, fire places, dryers and range tops.
- Millions choose this clean-burning fuel for bus, taxi, delivery and other fleets to minimize air pollution in metropolitan areas.
- Propane is used on more than 660,000 farms for irrigation pumps, grain dryers, standby generators and other farm equipment. It is an essential fuel for crop drying, flame cultivation, fruit ripening, space and water heating and food refrigeration.
- Propane is easy to transport and can be used in areas beyond the natural gas mains. Because it is 270 times more compact as a liquid than as a gas, it is economical to store and transport as a liquid.

Source:
National Propane Gas Association/Propane Education & Research Council (2003)

MATERIAL SAFETY DATA SHEET FOR ODORIZED PROPANE

1. Chemical Product and Company Identification

Product Name: Odorized Commercial Propane
Chemical Name: Propane
Chemical Family: Paraffinic Hydrocarbon
Formula: C_3H_8
Synonyms: Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG), Propane, Propyl Hydride

Name & Address:
AmeriGas Propane, L.P.
P. O. Box 965
Valley Forge, PA. 19482

Transportation Emergency Number:
CHEMTREC 1-800-424-9300

For General Information, Call:
1-610-337-1000, Safety Dept.

2. Composition / Information on Ingredients

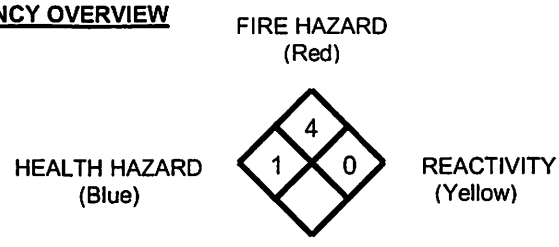
INGREDIENT NAME /CAS NUMBER	PERCENTAGE	OSHA PEL	ACGIH TLV
Propane / 74-98-6	87.5 -100		Simple asphyxiant
Ethane / 74-84-0	0 - 7.0	1,000 ppm	Simple asphyxiant
Propylene / 115-07-1	0 - 5.0		Simple asphyxiant
Butanes / 106-97-8	0 - 2.5		Simple asphyxiant
Ethyl Mercaptan / 75-08-1	0 - 50 ppm	0.5 ppm	0.5 ppm

WARNING: The intensity of the chemical odorant (e.g., ethyl mercaptan) may "fade" or diminish due to chemical oxidation, adsorption or absorption. Individuals with nasal perception problems may not be able to smell the odorant. Leaking propane from underground gas lines may lose its odor as it passes through certain soils. No odorant is effective 100% of the time. Therefore, circumstances can exist when individuals are in the presence of leaking propane and not be alerted by the smell. Contact AmeriGas for more information about odor, propane gas detectors and other safety considerations associated with the handling, storage and use of propane.

3. Hazards Identification

EMERGENCY OVERVIEW

DANGER! Flammable liquefied gas under pressure. Keep away from heat, sparks, flame, and all other ignition sources. Vapor replaces oxygen available for breathing and may cause suffocation in confined spaces. Use only with adequate ventilation. Reliance upon detection of odor may not provide adequate warning of potentially hazardous concentrations. Vapor is heavier than air; may collect at low levels. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Avoid breathing vapor. Keep service valve closed when not in use.



SPECIAL HAZARDS*

Minimal 0 Moderate 2 Severe 4
Slight 1 Serious 3 *(Ref. NFPA 704)

POTENTIAL HEALTH EFFECTS INFORMATION

ROUTES OF EXPOSURE:

Inhalation: Asphyxiation. Before suffocation could occur, the lower flammability limit of propane in air would be exceeded, possibly causing both an oxygen-deficient and explosive atmosphere. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death.
Eye Contact: Contact with liquid can cause freezing of tissue.
Skin Contact: Contact with liquid can cause frostbite.
Skin Absorption: None.
Ingestion: Ingestion is not expected to occur in normal use. However, liquid can cause freeze burn similar to frostbite.

CHRONIC EFFECTS: None.

CARCINOGENICITY: Propane is not listed by NTP, OSHA or IARC.

4. First Aid Measures

INHALATION: Individuals suffering from lack of oxygen should be removed to fresh air. If victim is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Obtain immediate medical assistance.

EYE CONTACT: Gently flush eyes with lukewarm water. Obtain immediate medical assistance.

SKIN CONTACT: Remove saturated clothes, shoes and jewelry. Immerse affected area in lukewarm water not exceeding 105° F. Keep immersed. Obtain immediate medical assistance.

INGESTION: If swallowed, obtain immediate medical assistance.

5. Fire-Fighting Measures

FLASH POINT: -156°F (-104°C) **AUTOIGNITION:** 842°F (432°C)

IGNITION TEMPERATURE IN AIR: 920°F to 1120°F (493°C to 549°C)

FLAMMABLE LIMITS IN AIR (% by volume): Lower: 2.15% Upper: 9.6%

EXTINGUISHING MEDIA: Dry chemical, CO_2, water spray or fog for surrounding area. Do not attempt to extinguish fire until propane source is isolated.

SPECIAL FIRE-FIGHTING INSTRUCTIONS: Evacuate all unnecessary personnel from the area. Allow only properly trained and protected emergency response personnel in area. A NIOSH approved self-contained breathing apparatus may be required. If gas flow cannot be shut off, do not attempt to extinguish fire. Allow fire to burn itself out. Use high volume water supply to cool exposed pressure containers and nearby equipment. Approach a flame-enveloped container from the sides, never from the ends. Use extreme caution when applying water to a container that has been exposed to heat or flame for more than a short time. For uncontrollable fires and/or when flame is impinging on container, withdraw all personnel and evacuate vicinity immediately.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Propane is heavier than air and can collect in low areas. Flash back along a vapor trail is possible. Pressure in a container can build up due to heat; and, container may rupture suddenly and violently without warning if pressure relief devices fail to function properly. If flames are against the container, withdraw immediately on hearing a rising sound, if venting increases in volume or intensity or if there is discoloration of the container due to fire. Propane released from a properly functioning relief valve on an overheated container can also become ignited.

HAZARDOUS COMBUSTION PRODUCTS: None.

6. Accidental Release Measures

IF MATERIAL IS RELEASED OR SPILLED: Evacuate the immediate area. Eliminate any possible sources of ignition and provide maximum ventilation. Shut off source of propane, if possible. If leaking from container or valve, contact your supplier or AmeriGas immediately.

7. Handling and Storage

HANDLING PRECAUTIONS: Propane vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Conduct system checks for leaks with a leak detector or solution, never with flame. Make certain the container service valve is shut off prior to connecting or disconnecting. If container valve does not operate properly, discontinue use and contact AmeriGas. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into pressure relief valve or cylinder valve cap openings. Do not drop or abuse cylinders. Never strike an arc on a gas container or make a container part of an electrical circuit. See Section 16, "OTHER INFORMATION", for additional precautions.

STORAGE PRECAUTIONS: Store in a safe, authorized location (outside, detached storage is preferred) with adequate ventilation. Specific requirements are listed in NFPA 58, LP-GAS CODE. Isolate from heat and ignition sources. Containers should never be allowed to reach temperature exceeding 125°F (52°C). Isolate from combustible materials. Provide separate storage locations for other compressed and flammable gases. Propane containers should be separated from oxygen cylinders or other oxidizers by a minimum distance of 20 feet, or by a barrier of non-combustible material at least 5 feet high having a fire rating of at least 1/2 hour. Full and empty cylinders should be segregated. Keep cylinders in an upright position at all times so that each pressure relief valve communicates with the vapor space. Keep container valve closed and plugged or capped when not in use. Install protective caps when cylinders are not connected for use. Empty containers retain some residue and should be treated as if they were full.

8. Exposure Control / Personal Protection

ENGINEERING CONTROLS

Ventilation: Provide ventilation adequate to ensure propane does not reach a flammable mixture.

RESPIRATORY PROTECTION

General Use: None.

Emergency Use: If concentrations are high enough to warrant supplied-air or NIOSH self-contained breathing apparatus, then the atmosphere may be flammable (See Section 5). Appropriate precautions must be taken regarding flammability.

PROTECTIVE CLOTHING: Avoid skin contact with liquid propane because of possibility of freeze burn. Wear gloves and protective clothing that are impervious to the product for the duration of the anticipated exposure.

EYE PROTECTION: Safety glasses, goggles or face shields are recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes are recommended when handling cylinders.

9. Physical and Chemical Properties

BOILING POINT: @ 14.7 psia = -44° F (@1.00 atm.pressure = -42°C)
SPECIFIC GRAVITY OF VAPOR (Air = 1) at 60° F (15.56°C): 1.50
SPECIFIC GRAVITY OF LIQUID (Water = 1) at 60° F: 0.504
VAPOR PRESSURE: @ 70° F (20°C) = 127 psig; @ 105° F (45°C) = 210 psig; @ 130°F (55°C) = 287 psig
EXPANSION RATIO (From liquid to gas @ 14.7 psia): 1 to 270
SOLUBILITY IN WATER: Slight, 0.1 to 1.0%
APPEARANCE AND ODOR: A colorless and tasteless gas at normal temperature and pressure. An odorant (ethyl mercaptan) is added to provide a strong unpleasant odor. Should a propane-air mixture reach the lower limits of flammability, the ethyl mercaptan concentration will be approximately 0.5 ppm in air.

ODORANT WARNING: Odorant is added to aid in the detection of leaks. One common odorant is ethyl mercaptan, CAS No. 75-08-1. Odorant has a foul smell. The ability of people to detect odors varies widely. Also, the odor level can be reduced by certain chemical reactions with material in the propane system or when fugitive propane gas from underground leaks passes through certain soils. No odorant will be 100% effective in all circumstances. If the presence of the odorant is not obvious, notify AmeriGas immediately.

10. Stability and Reactivity

STABILITY: Stable.

Conditions to Avoid: Keep away from high heat, strong oxidizing agents and sources of ignition.

REACTIVITY:

Hazardous Decomposition Products: Under fire conditions, fumes, smoke, carbon monoxide, aldehydes and other decomposition products. In most applications where there is inadequate venting to the outside air, incomplete combustion will produce carbon monoxide (a toxic gas) and potentially develop concentrations that can create a serious health hazard.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Propane is non-toxic and is a simple asphyxiant. It has slight anesthetic properties. Higher concentrations may cause dizziness.

IRRITANCY OF MATERIAL: None.
REPRODUCTIVE EFFECTS: None
TERATOGENICITY: None
SENSITIZATION TO MATERIAL: None
MUTAGENICITY: None
SYNERGISTIC MATERIALS: None

12. Ecological Information

No adverse ecological effects are expected. Propane does not contain any Class I or Class II ozone-depleting chemicals (40 CFR Part 82). Propane is not listed as a marine pollutant by DOT (49 CFR Part 171).

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused product in the container; return it to your supplier or contact AmeriGas for safe disposal. Residual product within a process system may be burned at a controlled rate if a suitable burning unit is available on site, and is done in accordance with federal, state and local regulations.

14. Transport Information

DOT SHIPPING NAME: Liquefied Petroleum Gas
IDENTIFICATION NUMBER: UN 1075
IMO SHIPPING NAME: Propane
IMO IDENTIFICATION NUMBER: UN 1978
HAZARD CLASS: 2.1 (Flammable Gas)
PRODUCT RQ: None
SHIPPING LABEL (S): Flammable Gas
PLACARD (WHEN REQUIRED): Flammable Gas
SPECIAL SHIPPING INFORMATION: Container must be transported in a well-ventilated vehicle, secured, and in a position such that the pressure relief device is in communication with the vapor space.

15. Regulatory Information

The following information concerns U.S. Federal regulatory requirements potentially applicable to this product. Not all such requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state [provincial] and local level.

U.S. FEDERAL REGULATIONS

Environmental Protection Agency (EPA)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) - 40 CFR Parts 117 and 302

Reportable Quantity (RQ): None

Superfund Amendment and Reauthorization Act (SARA)

- Sections 302/304: Relates to emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).

  Extremely Hazardous Substances: None **Threshold Planning Quantity (TPQ):** None

- Sections 311/312: Relates to submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA-defined hazard classes (40 CFR Part 370). The hazard classes for this product are:
  IMMEDIATE: No **PRESSURE:** Yes **DELAYED:** No **REACTIVITY:** No **FLAMMABLE:** Yes

- Section 313: Relates to submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372. Propane does not require reporting under Section 313.

Toxic Substance Control Act (TSCA)

Propane is listed on the TSCA inventory.

Occupational Safety and Health Administration (OSHA)

The following 29 CFR Parts may apply to propane:

29 CFR 1910.110: *Storage and Handling of Liquefied Petroleum Gases*
29 CFR 1910.119: *Process Safety Management of Highly Hazardous Chemicals*
29 CFR 1910.1200: *Hazardous Communications*

Food and Drug Administration (FDA)

21 CFR 184.1655: Generally recognized as safe (GRAS) as a direct human food ingredient when used as a propellant, aerating agent and gas.

16. Other Information

SPECIAL PRECAUTIONS: Use piping and equipment adequately designed to withstand pressure to be encountered. NFPA 58, LP-GAS CODE and OSHA 29 CFR 1910.10 require that all persons employed in handling LP-gases be trained in proper handling and operating procedures, which the employer shall document. Contact your propane supplier or AmeriGas to arrange for the required training. Allow only trained and qualified persons to install and service propane containers and systems.

ISSUE INFORMATION

Issue Date: December 2002 **Supersedes Date: April 2002**
Issued By: Director of Safety **Phone Number: 1-610-337-7000**

This material safety data sheet and the information it contains is offered to you in good faith as accurate. This Supplier does not manufacture this product, but is a supplier of the product that is independently produced by others. Much of the information contained in this data sheet was received from sources outside our Company. To the best of our knowledge this information is accurate, but this Supplier does not guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely, comply with all applicable laws and regulations and to assume the risks involved in the use of this product.

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Original Story URL:
http://www.jsonline.com/story/index.aspx?id=538906

A hint of trouble, then tragedy

3 dead, 46 hurt as explosion rips buildings to pieces at Falk Corp.

By GREG J. BOROWSKI
gborowski@journalsentinel.com

Posted: Dec. 6, 2006

As the first shift at Falk Corp. cranked along Wednesday morning, the troubling smell of gas drifted through an annex just off the main production building.

Workers called supervisors and began heading for the doors.

Moments later, at 8:07 a.m., a massive and deadly explosion ripped through the Menomonee Valley factory. It killed three, injured 46 and left a swath of one of the city's oldest companies a charred, smoking skeleton.

The three killed were identified as Curtis J. Lane, 38, Oconomowoc; Thomas M. Letendre, 49, Milwaukee; and Daniel T. Kuster, 35, Mayville.

Police Chief Nannette Hegerty said that had employees not discovered the propane leak and begun evacuating, "the death toll would have been much higher."

The death of Kuster, said his uncle, Tim Izydor, "kills my heart."

David Mays, a journeyman machinist, was working inside the annex when the gas smell first became apparent.

"I left," said Mays, 61, who has worked for Falk for 39 years. "But some of them stayed."

The explosion hurled Mays to the ground, reminding him of incoming mortar rounds from his service in Vietnam. It rattled windows and shook houses as far away as Franklin and New Berlin, and filled the gray morning sky near downtown with a chilling spiral of smoke.

The blast shattered the Falk family of workers, and ultimately tested a legion of police, firefighters, emergency personnel and hospital workers.

"We've all been there for over 20 years," said Mays, who later went to the hospital on his own. "We are all like a family."

Journeyman machinist David Sternig, 59, who has worked at Falk for 42 years, was in the southwestern part of the plant when the blast hit. Two of his brothers also work at Falk.

"It was like a bomb went off or a plane crashed," he said.

The light bulbs popped. The room went dark. The whir of machines came to a dead stop.

The room was eerily silent, and the air was filled with gray soot, Sternig said. Huge sections of concrete block were blown out. The annex was leveled.

Dean Sternig, 44, was on his way to see his brother when the blast knocked him from his feet like a bowling pin. Looking up from the shaking ground, he saw huge flames fill the sky.

"I didn't know if it was going to start to rain down on me or not, but I wasn't about to lie there and find out," he said.

He scrambled to his feet and ran into a nearby garage, diving on the ground into a pile of glass shards, cutting his arm in three places.

He got up again and worked his way back to his work station. The mood there was calm. No screaming or yelling.

Injured workers were transported in pairs. He was treated at a hospital and released. Neither of his two brothers was seriously injured.

"I feel real lucky," he said.

'There were people in there'

Falk is classic blue-collar Milwaukee. It is a place where life still runs on eight-hour shifts, where co-workers become friends who bowl together, play on the company softball team, trade deer hunting tales over a post-work beer.

To many people, though, the company passes without notice. Few likely could name its product: giant gears.

From the nearby highway and the viaducts that criss-cross the Menomonee Valley, the complex can fade into the mix of brick and smokestacks in the valley.

On Wednesday, Katie Porter was one of those passers-by, following her normal route from Wauwatosa down Canal St. to her job in the Historic Third Ward. Suddenly, her Saturn Ion was shoved off the side of the road.

"There was a truck or a van next to me, and I thought it had slammed into me," Porter said.

But the truck had come to a stop behind her.

"I saw the building explode outward and then just fall in," she said. "The walls were pushed outward, and the whole thing collapsed."

On S. 27th St., car alarms went off. In the nearby Merrill Park neighborhood, windows were broken and garage door bolts were shaken loose. Some thought it was an earthquake - others a sonic boom or an airplane crashing.

Jill Huffer was driving north across the 27th Street Viaduct, taking her two kids - Calvin, 9, and Casey, 5 - to Hawley Environmental School. It was not their normal route, but Calvin had an early morning appointment at the orthodontist.

"I saw debris flying way into the sky, and then I saw a flash and then a fire blast down on the ground," she said.

She kept driving, and found herself crying as she drove. Calvin asked what was wrong.

"I just kept thinking," Huffer said, "there were people in there."

In the valley below, forklift driver Otha Beamon, 56, was driving a Jeep about 20 feet outside the building.

"All of a sudden, 'Boom!' That was it," Beamon said.

He got out of the Jeep and was knocked down by falling debris. He got up, was knocked down again. Then, he said, "some guy came out of nowhere" and helped him get to safety.

In a nearby building, 35-year Falk employee Bill Gebhard was working when the blast tossed him into the air.

"Glass was shattering everywhere," he said.

Once he got his bearings, he realized he was looking outside; the building's walls had disappeared.

Sooty faces, shock

At the Engine 28 fire station about six blocks north of Falk, the entire building shook and the garage door sucked in, then blew outward - so much that the firefighters could see daylight. Some thought a car struck the station.

It had happened before.

They ran outside. No car. But James Youngblood, a driver for the department, saw smoke rising to the south. An engine and a paramedic unit were sent toward the smoke. South of the freeway they could tell the smoke was coming from a large building in the Falk complex.

They arrived about three minutes, 40 seconds after the blast to a scene of devastation about the size of two football fields. Lt. Frank Alioto, a firefighter for 23 years, called in a second alarm and requested extra paramedics and the department's heavy urban rescue team. Ultimately, it was a five-alarm emergency.

"There were people with blackened, sooty faces. Some bloody. They looked in shock. They were kind of wandering aimlessly," Alioto said.

Some workers were carrying out their Falk co-workers.

A triage site was set up to sort through the severity of injuries. Then the effort turned to fighting the fire.

Nearby businesses were pressed into service.

The Palermo's Pizza plant became a gathering place, with Falk workers signing in when they arrived so they could be accounted for.

While they waited for more direction, Palermo's workers served them pizza and coffee.

"It was pretty quiet," said Liz Bentzler, a quality auditor at the Palermo's plant. "Very surreal."

Falk workers were eventually loaded onto a dozen Milwaukee County Transit System buses and taken to nearby Miller Park. As they arrived at the stadium, some still looked shaken, and they walked in with the assistance of co-workers.

Later, worried families streamed into the stadium looking for loved ones, their faces stricken.

Dena Cahala beamed when she saw her husband, Glen, safe and talking on a cell phone. But her elation was tempered by her husband's fears for co-workers.

"I can't tell you how sad this is," said Glen Cahala, who was in the administrative building. "I just hope everyone is OK. I can't think about what this means for some families."

No foul play suspected

The building is part of a complex that covers 61 acres, with 1.5 million square feet of buildings. In all, there were about 600 people working at the complex at the time of the

explosion. The building that exploded is actually two structures that are connected, said Evan Zeppos, who was handling public relations for Falk late Wednesday. One, called the Annex, was used for storage of component parts used in the manufacturing process. The other, known as the 2-2 building, was used largely as a maintenance facility.

For hours, it was unclear how many people had been in the building when the explosion occurred.

And whether everyone had gotten out.

Law enforcement officials ultimately interviewed some 500 workers and witnesses, trying to sort out the details of what had happened. Hegerty would later say the investigation would take at least a week, but that it "appeared to be a tragic, accidental situation."

No foul play. No crime.

Just tragedy.

Mayor Tom Barrett, who coincidentally had toured the plant the day before, called the blast a "serious tragedy for Falk, for (parent company) Rexnord, for the city of Milwaukee. And I would ask the citizens of Milwaukee to remember the families in their prayers."

Speaking at a news conference at Miller Park, he said investigators did not know how much time had elapsed between the time the propane leak was discovered and the blast.

Barrett said that the city conducted an inspection of the plant on Sept. 14 and found some safety violations.

"They were few and minor, and they were corrected," the mayor said.

Several employees said the plant was very safety conscious. There always seemed to be safety training and drills, they said.

Machinist Robert Long, 46, predicted a quick recovery for Falk, where he has worked for 15 years.

"It will be up and running before you think," Long said.

In briefings through the day, officials laid out what it took to manage the scene. About 125 Milwaukee firefighters were sent to the scene in 34 different vehicles. In addition, 52 Milwaukee police officers arrived, plus 25 detectives. The response also included a host of private ambulances, state and federal officials, and the American Red Cross.

City crews checked nearby bridges for structural damage but did not find any problems. Building inspectors also began visiting homes in nearby neighborhoods, where some windows had been shattered.

By 5 p.m., the search was complete. No one else was missing, although Falk set up a hotline, at (414) 643-2420, for its workers to call to get more information.

Two hours later, Falk employees gathered at Wisconsin State Fair Park. In a brief, emotional meeting, David Doerr, Falk Corp.'s president, assured workers they would be paid while the company regroups.

"They just told us to hang in there," said Michael Kleczka, a third-shift worker.

A day earlier, the meeting would have been a family reunion.

Wednesday night, it was a family in mourning.

Staff of the Milwaukee Journal Sentinel *reporting from Miller Park, surrounding neighborhoods, area hospitals, Oconomowoc and the paper's main office contributed to today's coverage of the Falk Corp. explosion. They include Rick Barrett, Gina Barton, Thomas Content, Joel Dresang, Darryl Enriquez, Tom Held, Annysa Johnson, Mark Johnson, Mike Johnson, Tom Kertscher, Meg Kissinger, Sheila B. Lalwani, Avrum D. Lank, Jacqueline Loohauis, James B. Nelson, Derrick Nunnally, Georgia Pabst, Amy Rinard, Marie Rohde, Raquel Rutledge, Susanne Rust, Steve Schultze, Linda Spice, Felicia Thomas-Lynn, Dave Umhoefer, Don Walker and Ruth Ward. Helicopter photos were taken from WTMJ Chopper 4.*

From the Dec. 7, 2006 editions of the Milwaukee Journal Sentinel

Propane leak leads to evacuation

15,000 gallons of gas escapes at Waukesha firm

By ERIK BROOKS - GM Today Staff *October 10, 2006*

WAUKESHA - It wasn't as much a smell that filled the air at a major propane leak on the city's southwest side Monday morning.

It was a sound - the high-pitched, screaming whistle of 15,000 gallons of flammable gas vapor escaping from a storage tank pipe - that reminded firefighters how lucky they were that a potentially serious situation became merely a moderate inconvenience, forcing a half dozen or so companies to evacuate for several hours.

"My biggest problem is I live in Madison, and my car is stuck back there," said Mike Groff, production manager for Hilmot Corp., a conveyor system manufacturer next door to Lakes Gas Co., the propane distributor at 2200 Badger Court responsible for the leak.

Kevin Harnack

Two Waukesha firefighters talk Monday in front of Lakes Gas, 2200 Badger Court, as about 15,000 gallons of propane leaks from the white tank located behind them. Several businesses on Badger Court and Poplar Drive were evacuated as a precaution. According to Lakes Gas Co.'s branch manager, the leak began hours before firefighters arrived. Employees heard a hissing noise coming from a pipe on top of the company's 30,000-gallon outdoor liquid propane tank.

Appendix B:

City of West Allis Aerial Map with Locations

Milwaukee Ductile Iron Inc. Aerial Photo

Unit Drop Forge Aerial Photo

Quad Graphics Aerial Photo

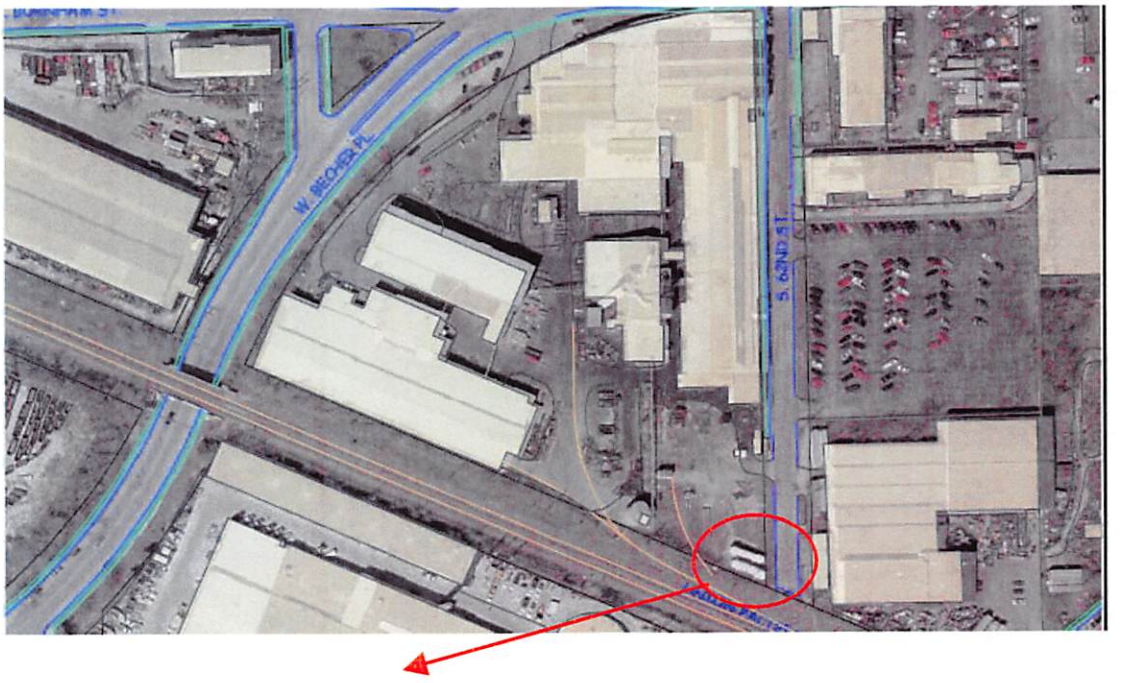
Langer Roofing & Sheet Metal Aerial Photo

U-Haul Aerial Photo

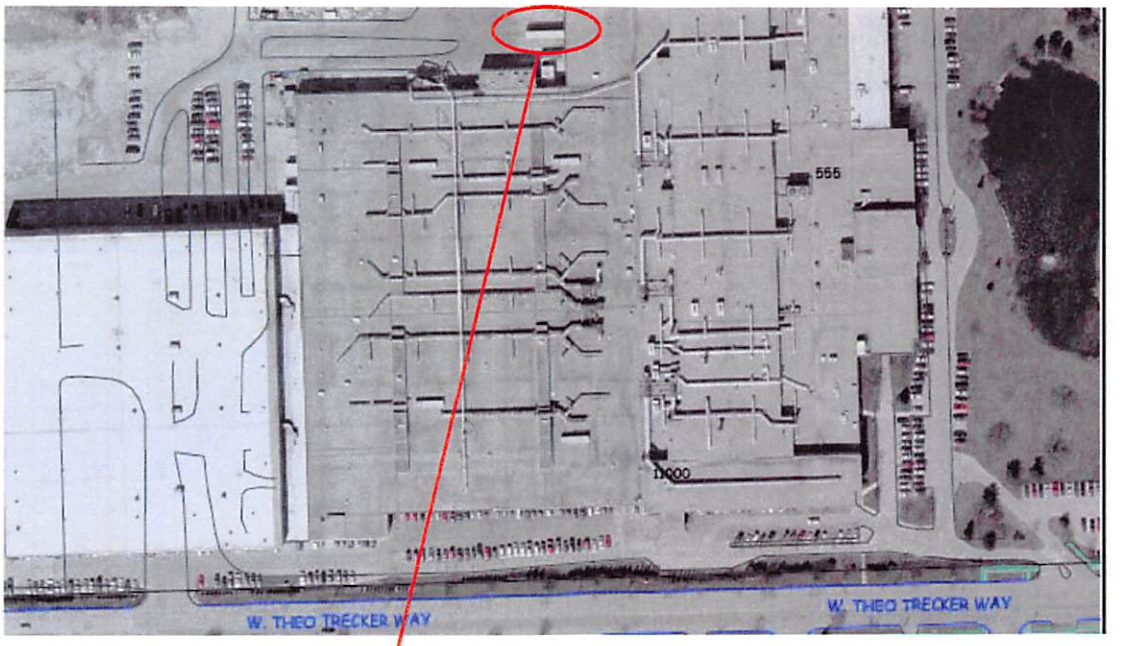
Wisconsin DOT Building Aerial Photo

Centerpointe Properties Aerial Photo

Milwaukee Ductile Iron, Inc.
1706 South 68th Street
2 – 60,000 gallon above- ground storage tanks. These tanks are protected by fire suppression system designed to provide a water curtain on the tanks to cool them and prevent a rupture. This is in the event of damage to the tanks or piping in the immediate area that results in a fire. This would not prevent an explosion in the event of a leak only.



Unit Drop Forge
1903 South 62nd Street
2 – 30,000 gallon above ground storage tanks. These tanks are not protected by a fire suppression system.

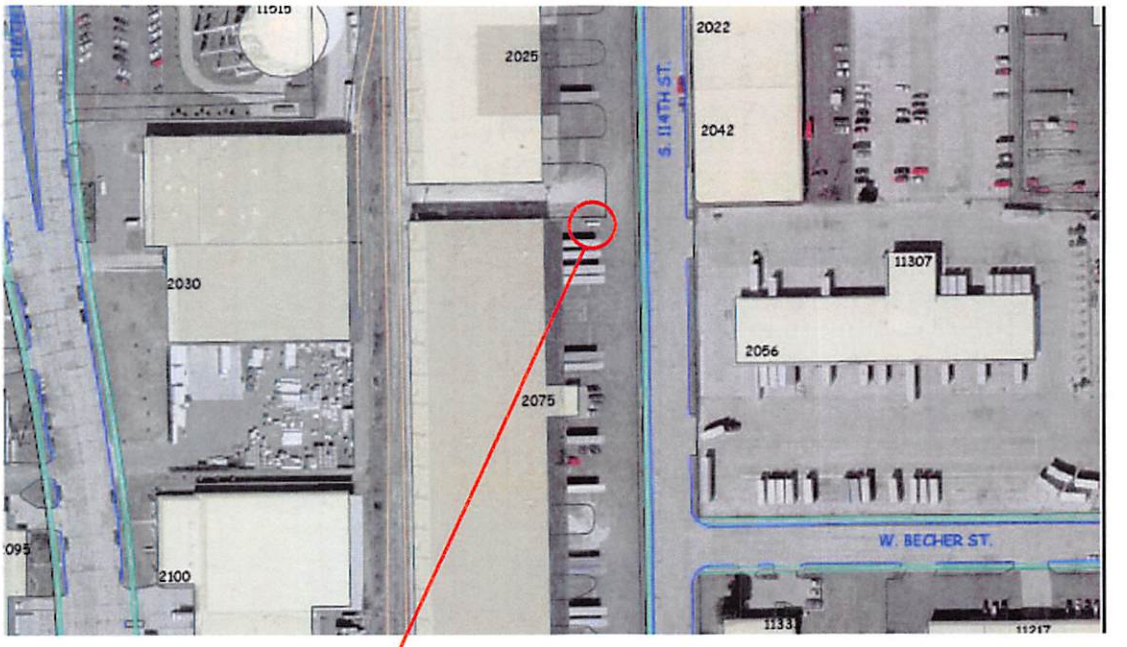


Quad Graphics
555 South 108th Street
1 – 6,000 gallon above ground storage tank. This tank is not protected by a fire suppression system. They have stated that they are looking to phase out us of this tank and have it removed.

Langer Roofing & Sheet Metal
345 South Curtis Road
2 – 1,000 gallon above ground storage tanks. 1 – 500 gallon above ground storage tank. 3 – 500 gallon portable storage tanks (less than 20% full due to weight and travel restrictions). These tanks are not protected by a fire suppression system.

U-Haul
924 South 108th Street
2 – 1000 gallon above ground storage tanks. These tanks are not protected by a fire suppression system.

Wisconsin DOT Building
935 South 60th Street
1 – 1,000 gallon above ground storage tank. This tank is not protected by a fire suppression system.



Centerpointe Properties
2075 South 114th Street
1 – 1,000 gallon above ground storage tank. This tank is not protected by a fire suppression system.