



**CHLORINE
INSTITUTE
SAFETY
RESOURCES**





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HOW TO CONTACT CI

For more information about the Chlorine Institute's technical resources and training programs, visit the Institute's website at www.chlorineinstitute.org.

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Disclaimer

Information and suggestions contained in the pamphlets and other materials listed are drawn from sources believed to be reliable, and are based on the experiences of a number of members of the Chlorine Institute. The Institute and its members, jointly and severally, make no guarantee and assume no liability for information in the publications. Prices are subject to change without prior notification.

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The Chlorine Institute was founded in 1924 to represent companies and other entities that are involved or interested in the safe production, distribution and use of chlorine, sodium and potassium hydroxides, and sodium hypochlorite, and the distribution and use of hydrogen chloride.

Today the Institute has approximately 195 member companies located in the U.S., Canada, Mexico, Central and South America, and overseas countries. Institute members account for a majority of the U.S. production of chlorine and related alkali chemicals - about 26 million tons of material annually.

Because of chlorine's nature and its widespread and varied use, the promotion of its safe handling has long been an accepted responsibility of its producers, packagers, distributors and users. The Institute is the focal point for their joint efforts.

The Chlorine Institute exists to support the chlor-alkali industry in advancing safe, secure, environmentally compatible, and sustainable production, distribution, and use of its mission chemicals*.

**CI's mission chemicals: chlorine, sodium and potassium hydroxides, sodium hypochlorite, the distribution and use of hydrogen chloride.*

Goals

The Chlorine Institute sets out to accomplish its mission by:

- I. Improving the performance of safety, human health and environmental protection programs for chlor-alkali producers, packagers, distributors and users.
- II. Fostering the development of regulations that support the achievement of continuous improvement and voluntary mechanisms that preclude the need for new government regulations.
- III. Positioning the Institute as an authoritative and credible source of technical, safety and security-related information and emergency response procedures to prevent and mitigate the release of chlorine and other mission chemicals.



FREE PUBLICATIONS!

- In an effort to promote safety stewardship within the chlor-alkali industry, The Chlorine Institute offers free download access to pamphlets through the online bookstore. *(Pamphlets 10 and 72 are not included in this program but are still available for purchase through the bookstore.)*

THE VALUE of CI Membership

Companies who join the Institute enjoy many benefits.



Please visit our website for details:
<http://www.chlorineinstitute.org/about-us/membership.cfm>.

OUR COMMITMENT to Chlorine Stewardship

All Chlorine Institute member companies that produce, distribute, or use chlorine must sign an annual commitment to implement and maintain safety and security practices.

COMPANY Membership Criteria

Any company engaged in the production, packaging, distribution or use of chlorine, caustic soda, caustic potash, sodium hypochlorite; the distribution and use of hydrogen chloride; or any company interested in the development and improvement of the chlor-alkali industry is eligible for membership. The four categories of membership are:

North American Producer membership is open to companies that produce chlorine, caustic soda or caustic potash in the United States, Canada and Mexico.

Packager/Bleach Producer membership is open to companies located in North America that produce bleach and package chlorine in 100- or 150-pound cylinders or one-ton containers or cargo tanks.

Overseas Producer membership is open to companies located outside the United States, Canada and Mexico that produce chlorine, caustic soda or caustic potash.

Associate membership is open to all other companies with an interest in the chlor-alkali industry, including makers of equipment for producing, handling, shipping and dispensing chlorine; salt suppliers; chlorine consumers; water and wastewater treatment facilities; pool chlorinators; and designers and builders of chlorine plants.



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CI Membership = Bottom Line Benefits

In addition to the many benefits of membership listed on page 3, new CI member companies enjoy immediate bottom-line value with:

- Significant discounts on all publications and A/V Materials.
- 6 FREE hard copy technical pamphlets of your choice from the 2017 Catalog.
- ONE COMPLIMENTARY meeting registration to the CI meeting of your choice.
- Annual subscription to the Institute's Monthly U.S. Chlorine & Caustic Production & Shipment Report—see page 10.

SUMMARIES

Safe Production, Handling & Packaging

Pamphlet 1) Chlorine Basics

Edition 8, May 2014

Contains basic information including properties and physiological effects of chlorine, description and rules for handling chlorine containers, emergency measures and first aid, and chemical and physical characteristics. (62 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 5) Bulk Storage of Liquid Chlorine

Edition 8, June 2011

Recommends design, construction, location, installation and inspection of non-refrigerated liquid chlorine storage systems. (25 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 6) Piping Systems for Dry Chlorine

Edition 16, March 2013

Contains information on selected pipe, valves and fittings suitable for use with dry chlorine (gas or liquid) within the range of -150°F and 300°F. There is also guidance on preparations for use and maintenance practices. (88 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 9) Chlorine Vaporizing Systems

Edition 7, July 2011

Contains information intended to assist in the selection, design and safe operation of vaporizers. (36 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 17) Packaging Plant Safety and Operational Guidelines

Edition 4, Revision 2, May 2011

Contains recommendations for receiving, inspecting, testing and reconditioning chlorine cylinders, ton containers, valves and fusible plugs at packaging plants. It also covers procedures for filling these containers, personal protective equipment use, tank car receiving, emergency planning/response, and key regulations. (94 pages).

Members \$26.00
Non-members \$65.00

Pamphlet 21) Nitrogen Trichloride - A Collection of Reports and Papers

Edition 6, September 2010

A compilation of reports and discussions on the subject at past Chlorine Institute Plant Operations Seminars.

Available for download only

Pamphlet 49) Recommended Practices for Handling Chlorine Bulk Highway Transports

Edition 9, January 2009

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading, maintenance and emergency response relevant to handling cargo tank motor vehicles and portable tanks used to transport chlorine by highway. This pamphlet also refers to the applicable regulatory requirements. (63 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 57) Emergency Shut-Off Systems for Bulk Transfer of Chlorine

Edition 6, June 2015

Recommends practices for emergency shut-off protection during chlorine transfers involving bulk containers. (12 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 60) Chlorine Pipelines

Edition 7, August 2013

Provides recommendations on the design, construction, operation and maintenance of carbon steel pipelines that transport chlorine liquid or gas. The recommendations are applicable to pipelines that terminate outside the chlorine shipper's property or crosses property not owned by the shipper or receiver of the chlorine. (24 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 65) Personal Protective Equipment for Chlor-Alkali Chemicals

Edition 6, July 2015

Provides information pertaining to personal protective equipment (including Respiratory Protection and Equipment) used in the manufacture or handling of chlorine and sodium hydroxide, including when to use which level of PPE. (59 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 66) Recommended Practices For Handling Chlorine Tank Cars

Edition 5, June 2015

Provides guidelines, recommended practices and other useful information to personnel involved in the shipping, receiving, and/or tank testing of single unit chlorine tank cars. (95 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 73) Atmospheric Monitoring Equipment for Chlorine

Edition 7, June 2003

Discusses experiences of CI members with ambient chlorine monitors and techniques involved in installing, selecting, maintaining, and calibrating a successful chlorine monitoring system. Provides listing of known monitoring equipment vendors. (27 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 76) Guidelines for the Safe Motor Vehicular Transportation of Chlorine Cylinders and Ton Containers

Edition 5, June 2012

Provides guidelines, recommended practices and other useful information, including guidance on securement, segregation, driver training, emergency response and regulatory requirements, for shipping chlorine cylinders and ton containers on the highways. (26 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 80) Recommended Practices for Handling Sodium Hydroxide Solution and Potassium Hydroxide Solution (Caustic) Barges

Edition 4, August 2014

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving and handling of sodium hydroxide solution and potassium hydroxide solution in barges. This pamphlet also refers to the applicable regulatory requirements. (29 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 82) Recommendations for Using 100 & 150 Pound Chlorine Cylinders at Swimming Pools

Edition 3, January 2015

Designed to provide basic information for the safe handling and use of chlorine cylinders kept on site at swimming pools. (44 pages)

Members \$26.00
Non-members \$65.00

SUMMARIES

Pamphlet 85)

Recommendations for Prevention of Personnel Injuries for Chlorine Production and Use Facilities

Edition 5, November 2010

Discusses the core elements of a comprehensive safety program for individuals involved in producing and using chlorine and caustic soda. (65 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 86)

Recommendations to Chlor-Alkali Manufacturing Facilities for the Prevention of Chlorine Releases

Edition 5, October 2010

Provides guidelines for manufacturing facilities to help prevent the occurrence of uncontrolled releases of chlorine, and reference material and discussion to assist the reader with Risk Management Plan (RMP) implementation in the United States. (49 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 87)

Recommended Practices for Handling Sodium Hydroxide Solution and Potassium Hydroxide Solution (Caustic) Tank Cars

Edition 4, December 2012

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading and maintenance relevant to handling sodium hydroxide solution and potassium hydroxide solution in tank cars. This pamphlet also refers to the applicable regulatory requirements. (47 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 88)

Recommended Practices for Handling Sodium Hydroxide Solution and Potassium Hydroxide Solution (Caustic) Cargo Tanks

Edition 3, March 2010

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading and maintenance relevant to handling sodium hydroxide solution and potassium hydroxide solution in tank cars. This pamphlet also refers to the applicable regulatory requirements. (40 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 89)

Chlorine Scrubbing Systems

Edition 3, Revision 1, October 2008

General guidance and source information for chlorine producers and consumers for the effective containment and treatment of their gaseous chlorine effluents. (33 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 91)

Checklist for Chlorine Packaging Plants, Chlorine Distributors and Tank Car Users of Chlorine

Edition 4, April 2014

A checklist designed to help plants using or packaging chlorine from tank cars to evaluate their training, equipment and safety practices. This edition provides more detail from a security standpoint. (10 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 94)

Sodium Hydroxide Solution and Potassium Hydroxide Solution (Caustic) Storage Equipment and Piping System

Edition 4, September 2012

Provides useful information concerning the storage and piping of sodium hydroxide and potassium hydroxide solutions and offers practical suggestions in the design, construction and operation of these systems. (71 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 95)

Gaskets for Chlorine Service

Edition 5, July 2014

Now covers both dry and wet gaskets. Provides guidance to the industry and the public relative to practical materials that can be substituted for asbestos in gasket applications for chlorine service. (13 pages)

Members \$26.00
Non-member \$65.00

Pamphlet 96)

Sodium Hypochlorite Manual

Edition 4, October 2011

Contains information for the safe production, handling and use of both industrial and household strength bleach solutions. Provides basic information on useful physical and chemical properties, as well as compatible materials, handling systems and pertinent analytical procedures, emergency response, stability factors, and security issues. (87 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 98)

Recommended Practices for Handling Hydrochloric Acid in Tank Cars

Edition 4, September 2013

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading and maintenance relevant to handling hydrochloric acid in tank cars. This pamphlet also refers to the applicable regulatory requirements. (81 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 99)

Hydrogen Chloride, Anhydrous (Non-Refrigerated) - Use, Handling and Transportation of Cylinders and Tube Trailers

Edition 3, October 2008

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading and maintenance relevant to handling of non-refrigerated anhydrous hydrogen chloride in cylinders or tube trailers. This pamphlet also refers to the applicable regulatory requirements. (28 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 139)

Electrical Safety in Chlor-Alkali Cell Facilities

Edition 5, November 2012

Provides information regarding electrical safety, including identification of hazards, electrical health effects on the body, preventative measures, and first aid, for those responsible for operations and maintenance in chlor-alkali facilities. (39 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 150)

Recommended Practices for Handling Hydrochloric Acid in Cargo Tanks

Edition 3, April 2014

Provides guidelines, recommended practices and other useful information for the safe shipping, receiving, loading, unloading and maintenance relevant to handling of hydrochloric acid in tank motor vehicles, including a best practices section, entitled "Reducing Releases". This pamphlet also refers to the applicable regulatory requirements. (42 pages)

Members \$26.00
Non-members \$65.00

SUMMARIES

Pamphlet 152)

Safe Handling of Chlorine Containing Nitrogen Trichloride

Edition 3, July 2011

Provides useful information to producers, distributors, repackagers, and users of chlorine. Discusses nitrogen trichloride, a trace impurity commonly found in chlorine that could lead to the explosive decomposition of nitrogen trichloride in chlorine containing systems, including NCl₃ properties, hazard awareness, controls, and prevention. (21 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 155)

Water and Wastewater Operators Chlorine Handbook

Edition 3, May 2014

Provides basic information on chlorine safety and handling necessary for treatment plant personnel and other users of cylinders or ton containers. (54 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 163)

Hydrochloric Acid Storage and Piping Systems

Edition 3, October 2011

Provides useful information concerning the storage and piping of hydrochloric acid solutions and offers practical suggestions in the design, construction and operation of these systems. (51 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 164)

Reactivity and Compatibility of Chlorine and Sodium Hydroxide with Various Materials

Edition 2, August 2007

Provides information concerning the compatibility of these two substances with a variety of materials and their reactivity with other chemicals. The pamphlet attempts to cover only those materials and chemicals typically found in facilities producing, using or otherwise handling chlorine and/or sodium hydroxide. This pamphlet is not meant to provide the detailed technical information that may be required by process engineers. (32 pages)

Members \$26.00
Non-Members \$65.00

Pamphlet 165)

Instrumentation for Chlorine Service

Edition 2, July 2009

Provides guidelines and practices for the selection of materials, selection of primary elements and control devices and the design of instrumentation, including sensing lines for gas and liquid chlorine service. The recommendations are based on current industry practices. (24 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 166)

Angle Valve Guidelines for Chlorine Bulk Transportation

Edition 1, October 2002

Provides performance/selection criteria to identify valves other than the 'standard' suitable for use on bulk liquid chlorine transportation equipment. An appendix includes information on valves that meet these criteria. Includes drawings from four valve suppliers. (21 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 167)

Learning From Experience

Edition 3, May 2014

Summarizes several incidents that have occurred in chlorine production, chlorine packaging, sodium hypochlorite production and user facilities pertaining to the chlor-alkali industry. The pamphlet now includes incident information on accidental mixing and downstream chlorine inhalation incidents. No nitrogen trichloride incidents are included. (28 pages)

Members \$26.00
Non-Members \$65.00

Pamphlet 168)

Guidelines for Dual Valve Systems for Bulk Chlorine Transport

Edition 2, July 2015

The purpose of this pamphlet is to set forth performance/selection criteria that should be utilized in identifying dual valve systems for bulk chlorine transportation applications (i.e. tank cars, cargo tanks and barges). These configurations are intended to meet U.S. Department of Transportation (DOT) and Transport Canada (TC) performance requirements. This pamphlet contains information pertaining to standardizations, performance/design criteria, operational considerations and installation considerations, as well as an appendix that includes valve manufacturer information. (36 pages)

Members \$26.00
Non-Members \$65.00

WC-1)

Wall Chart: Handling Chlorine Cylinders and Ton Containers

Edition 3, September 2011

Contains recommendations for safe handling of chlorine cylinders and ton containers, emergency procedures and applicable principles of first aid.

Members \$22.00
Non-Members \$55.00

WC-1SP)

Wall Chart: Handling Chlorine Cylinders and Ton Containers

Edition 3, September 2011

Spanish translation.

Members \$22.00
Non-Members \$55.00

WC-1FR)

Wall Chart: Handling Chlorine Cylinders and Ton Containers

Edition 3, September 2011

French translation.

Members \$22.00
Non-Members \$55.00

WC-2)

Wall Chart: Handling Sodium Hypochlorite

Edition 2, September 2014

Designed to serve as general references for end users of sodium hypochlorite, this chart contains recommendations for safe handling of sodium hypochlorite, emergency procedures and applicable principles of first aid.

Members \$22.00
Non-Members \$55.00

WC-2SP)

Wall Chart: Handling Sodium Hypochlorite

Edition 2, September 2014

Spanish translation.

Members \$22.00
Non-Members \$55.00

WC-2FR)

Wall Chart: Handling Sodium Hypochlorite

Edition 2, September 2014

French translation.

Members \$22.00
Non-Members \$55.00

SUMMARIES

WC-3)

Wall Chart: Handling Hydrochloric Acid

Edition 1, April 2016

Contains recommendations for safe handling of hydrochloric acid, emergency procedures and applicable principles of first aid.

WC-4)

Handling Caustic Soda and Caustic Potash

Edition 1, April 2016

Contains recommendations for safe handling of caustic soda and caustic potash, emergency procedures and applicable principles of first aid.

Health and the Environment

Pamphlet 137)

Guidelines: Asbestos Handling for the Chlor-Alkali Industry

Edition 6, February 2011

Addresses safe asbestos handling procedures for the chlor-alkali industry and deals primarily with North American requirements. (26 pages)

Members \$26.00
Non-members \$65.00

Emergency Planning and Response

Pamphlet 63)

First Aid, Medical Management/ Surveillance and Occupational Hygiene Monitoring Practices for Chlorine

Edition 8, June 2011

Provides information for the administration of first aid and medical treatment for anyone who has been exposed to gaseous or liquid chlorine. In addition, this pamphlet provides information pertaining to the administration of medical surveillance programs, exposure assessment programs, and industrial hygiene practices for persons who may be potentially exposed to chlorine. (18 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 64)

Emergency Response Plans for Chlor-Alkali, Sodium Hypochlorite, and Hydrogen Chloride Facilities

Edition 7, November 2014

Includes information essential to the preparation or updating of formal, written emergency response which would be utilized during an accidental release or potential accidental release of chlor-alkali products. (42 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 74)

Guidance on Estimating the Area Affected by a Chlorine Release

Edition 6, June 2015

Provides a simplified document to assist chlorine producers/users in complying with EPA requirements issued under the Clean Air Act and to assist local emergency planning committees, fire departments, and municipalities in estimating the area affected by a chlorine release for emergency planning and hazard assessment purposes. (59 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 160)

Estimating the Area Affected by a Hydrogen Chloride Release

Edition 1, May 1999

Provides a simplified document to be used by producer(s) and user(s) of anhydrous hydrogen chloride and hydrochloric acid, local emergency planning committees, fire departments and municipalities to estimate the area affected by a hydrogen chloride release for emergency planning and hazard assessment purposes. (90 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 169)

Hydrochloric Acid Solution Bulk Transports Emergency Response Guidelines Handbook

Edition 1, March 2012

This document provides useful information for emergency responders who may have to handle an incident involving bulk transport of hydrochloric acid solution. (11 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 170)

Hydrogen Chloride, Anhydrous (AHCL), Bulk Transports Emergency Response Guidelines Handbook

Edition 1, October 2007

This guidance document provides useful information for emergency responders who may have to handle an incident involving tank cars of anhydrous hydrogen chloride, refrigerated. (23 pages)

Members \$26.00
Non-members \$65.00

IB/A)

Instruction Booklet: Chlorine Institute Emergency Kit "A" for 100-lb. and 150-lb. Chlorine Cylinders

Edition 12, Revision 2, July 2014

Provides instructions and illustrates the use of both generations of the Chlorine Institute Emergency Kit "A", those manufactured before 12/31/12 and after 1/1/13. Includes complete parts list for both generations. (27 pages)

Members \$20.00
Non-members \$50.00

IB/B)

Instruction Booklet: Chlorine Institute Emergency Kit "B" for Chlorine Ton Containers

Edition 11, Revision 1, July 2014

Provides instructions and illustrates the use of Chlorine Institute Emergency Kit "B." Includes complete parts list. Depictions of commonly used optional devices were added to this edition and numerous editorial revisions were made. In addition, instructions on how to apply both the current and previous kit devices of Emergency Kit "B" are included. (27 pages)

Members \$20.00
Non-members \$50.00

IB/C)

Instruction Booklet: Chlorine Institute Emergency Kit "C" for Chlorine Tank Cars and Tank Trucks

Edition 10, February 2014

Provides instructions and illustrates the use of Chlorine Institute Emergency Kit "C." Includes complete parts list. This edition features pictures of new dual valve arrangements, detailed instructions on how to apply the C-kit to different valve styles, and a summary of Emergency Kit "C" design changes through the years. (25 pages)

Members \$20.00
Non-members \$50.00

SUMMARIES

IB/RV)

Instruction Booklet: CI Recovery Vessel for 100-lb. and 150-lb. Chlorine Cylinders

Edition 2, March 2009

Provides instructions and illustrates the use of Chlorine Institute Recovery Vessel. Includes complete parts list. (10 pages)

Members \$20.00
Non-members \$50.00

Properties of Chemicals and Analytical Techniques

Pamphlet 72)

Properties of Chlorine in SI Units

Edition 3, August 2011

Covers density, volume, vapor pressure, heat capacity ratio, compressibility, enthalpy, entropy fugacity coefficient, Joule Thompson coefficient, velocity of sound, surface tension, thermal conductivity and viscosity of chlorine. (85 pages)

Members \$28.00
Non-members \$70.00

Pamphlet 100)

Dry Chlorine: Behaviors of Moisture in Chlorine and Analytical Issues

Edition 4, July 2011

Provides a technical definition of dry chlorine over a wide range of temperature and dissolved water content conditions. It contains charts showing the solubility of water in chlorine to determine if the moisture content is under control and corrosive conditions exist. Also includes a discussion of sampling techniques to avoid moisture contamination problems. (40 pages)

Members \$26.00
Non-members \$65.00

Pamphlet 121)

Explosive Properties of Gaseous Mixtures Containing Hydrogen and Chlorine

Edition 3, January 2009

Brings together in a single source all known pertinent, published references on explosive properties of gaseous mixtures containing hydrogen and chlorine. The reaction characteristics of hydrogen admixed with chlorine, oxygen and inert gases information is based on the literature review of reaction characteristics of hydrogen with chlorine and with mixtures of chlorine and oxygen, and represents an attempt to graphically show ignition and detonation zones for the systems hydrogen-chlorine-oxygen and hydrogen-chlorine-air. (34 pages)

Members \$26.00
Non-members \$65.00

ASTM Analytical Methods should be ordered directly through the ASTM in Conshohocken PA.

Phone: (610) 832-9500
Fax: (610) 832-9555
Web: www.ASTM.org

Chlorine Manufacturing And Industry Data

Pamphlet 10)

North American Chlor-Alkali Industry Plants and Production Data Report for 2014

July 2015

Lists location of chlor-alkali plants, chlorine packaging facilities, and sodium hypochlorite production facilities with types of cells and shipping containers loaded at each location. A table added in 2001 lists Sodium Hypochlorite Production facilities in North America. Includes annual data on chlorine capacity, production and shipments in the U.S., Canada and Mexico, some by geographical distribution. Updated annually. (18 pages)

Members \$36.00
Non-members \$90.00

CCPSR)

Monthly US Chlorine & Caustic Production Statistics Report

CI offers a monthly report on industry production capacity for chlorine, and the quantity of chlorine actually produced, liquified, and shipped for each month. It also includes production data for sodium hydroxide. It does NOT contain any pricing or inventory data. CI issues each month's report before the end of the following month.

Members: no charge
Non-members \$125 annual subscription

INDEX)

Chronological Index of Health, Environment, Safety, and Security (HESS) Seminar Proceedings

March 2014

Lists titles of all papers and authors for seminars from 1957 onward. (46 pages)

Free to download

Audio-Visual Materials

A-DVD)

Emergency Kit "A" and Recovery Vessel Instructional Video

Edition 4, January 2014

Addresses the containment of leaks that could occur in 100 lb. and 150 lb. chlorine cylinders. This video includes how to apply the A-Kit for emergency kits manufactured before AND after the latest kit was released on January 1, 2014. The Kit "A" is designed to contain leaks in and around the valve area and cylinder side wall. The Recovery Vessel is designed to contain all other leaks. (28 minutes)

Members \$32.00
Non-members \$80.00

B-DVD)

Emergency Kit "B" for Chlorine Ton Containers

Edition 3, November 2014

Covers what to do in a chlorine emergency, where leaks occur on a chlorine ton container and the proper uses of tools and devices in the Emergency Kit "B". (30 minutes)

Members \$32.00
Non-members \$80.00

SUMMARIES

CAUS-DVD)

Preventing Non-Accident Releases by Properly Securing Caustic Tank Cars

Edition 1, December 2016

This video provides guidance for the shipment of caustic (sodium hydroxide (NaOH) and potassium hydroxide (KOH)) tank cars and the reduction of non-accident releases (NARs). Topics covered include the definition of a NAR, U.S. Department of Transportation incident reporting requirements, loader and unloader responsibilities, best practices to reduce caustic tank car NARs and available guidance and resources, such as additional Chlorine Institute guidance.

No charge

C-DVD)

Emergency Kit "C" for Chlorine Tank Cars and Tank Trucks

Edition 2, April 2014

This instructional video demonstrates the proper use of tools and devices supplied in Emergency Kit "C", to stop leaks on chlorine rail tank cars and tank trucks. (13 minutes)

Members \$32.00
Non-members \$80.00

CLS-DVD)

Preventing Non-Accident Releases (NARs) from Chlorine Railcars by Properly Securing Return Shipments

Edition 2, April 2014

This 17-minute video provides guidance for the shipment of chlorine residue tank cars and the reduction of non-accident releases (NAR's). Topics covered include the definition of an NAR, U.S. Department of Transportation incident reporting requirements, shipper responsibilities, best practices to reduce chlorine residue tank car NAR's and available guidance and resources, such as additional CI guidance. (17 minutes)

No charge

CST-DVD)

The Chlorine Safety Tour

Edition 1, September 2013

This video is a training guide for chlorine emergency response. Presentation topics include: chlorine properties and emergency response; chlorine tank cars and rail safety; and the proper use of Emergency Kits A, B and C to mitigate leaks from chlorine cylinders, ton containers and tank car valves. The DVD also includes presentation support materials for instructors to use in creating interactive workshops. (3 hours)

No charge

FR-DVD)

Chlorine Emergencies: an Overview for First Responders

Edition 2, January 2015

This program was developed to help first responders prepare to act in those critical first 15 minutes – what to do when the call comes in, what to expect on-scene, and where to find the resources needed to contain a release. This second edition has been expanded to include information on resources for mobile devices, security & antiterrorism considerations, a more robust explanation of shelter-in-place, and more chlorine release footage. (87 minutes)

No charge

H-DVD)

First Response to Short-Term Chlorine Exposures

Edition 2, November 2006

Overview of medical symptoms and treatment of chlorine exposure. (9 minutes)

Members \$32.00
Non-members \$80.00

HCL-DVD)

Handling Hydrochloric Acid Safely

Edition 2, 2010

Provides guidelines, recommended practices and other information for the safe handling, loading and unloading of hydrochloric acid tank cars and tank trucks. This video also includes hydrochloric acid properties, reactivity, suitable materials of construction and common uses. (33 minutes)

Members \$32.00
Non-members \$80.00

HCLS-DVD)

Preventing Non-Accident Releases by Properly Securing Hydrochloric Acid Railcars

Edition 1, 2014

Provides guidance for the shipment of hydrochloric acid (HCl) tank cars and the reduction of non-accident releases (NARs). Topics covered include the definition of an NAR, U.S. Department of Transportation incident reporting requirements, shipper responsibilities, best practices to reduce HCl tank car NARs and available guidance and resources, such as additional Chlorine Institute guidance. (22 minutes)

No charge

HYPO-DVD)

Handling Sodium Hypochlorite Safely

Edition 2, 2010

Provides guidelines, recommended practices and other information for the safe handling, storage, loading and unloading of sodium hypochlorite tank cars and tank trucks. This video also includes sodium hypochlorite properties, health effects, reactivity, suitable materials of construction, and common uses. (25 minutes)

Members \$32.00
Non-members \$80.00

PCS-DVD)

Pool Chemical Safety

Edition 1, 2012

This 13-minute online video details basic safe chemical handling techniques for pool operators. Topics include chemical safe handling, storage, and emergency/accident response.

No charge - Available online only

W-DVD)

Chlorine Safety for Water and Wastewater Operators

Edition 2, February 2009

Although produced with water & wastewater operators in mind, this DVD provides information about chlorine useful to everyone handling the chemical and especially for end users of cylinders and ton containers. (35 minutes)

Members \$32.00
Non-members \$80.00

ORDERING INFORMATION

“BY INDUSTRY, FOR INDUSTRY”

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A quantity discount of 10% is available to CI member companies for orders of 20 or more of the same title.

Non-profit emergency response organizations and water and wastewater municipalities may order materials at the Institute's member prices. Emergency response organizations include fire, police and sheriff's departments, civil defense and medical authorities who need to train responders and use Institute materials on-site during chlorine incidents.

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The Chlorine Institute takes a holistic approach to chlorine safety and stewardship by maintaining relationships across the chlor-alkali industry to develop its technical resources. All technical pamphlets and resources are developed and reviewed by a team of experienced industry leaders from CI's member companies who serve on CI's four issue teams and various advisory groups.

The issue teams are listed below:

Product Stewardship

Established in 2016, serves as a forum for the industry's safety concerns and promotes zero releases, injuries and process safety incidents involving mission chemicals among our customers. This team works to facilitate the responsible use of mission chemicals among our customers.

Emergency Preparedness

Established in 2006, serves as a forum for CI's members who strive to minimize the impact of a chlorine or AHCI release by enabling the first responders to react in an effective manner. This team is responsible for ensuring that CHLOREP® remains an effective emergency response tool.

Health, Environment, Safety and Security

Established in 2016, serves as a forum for members who work to achieve zero incidents, releases and injuries with a focus on process safety and security.

Transportation

Established in 2006, strives to maintain the ability to transport chlorine and other mission chemicals in a safe and secure manner. This team focuses on various facets of chlorine transportation by rail and highway. The ultimate goal is to eliminate transportation accidents and releases.

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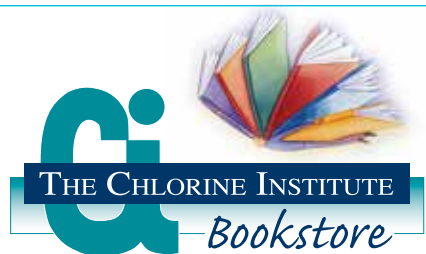
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