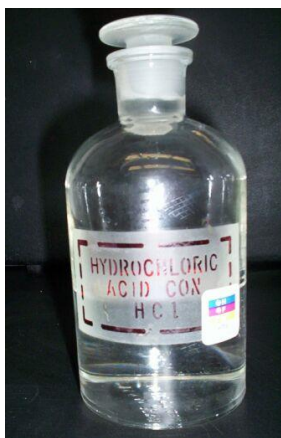


You have a right to know of the hazards in your workplace and must be provided with the training and equipment necessary to protect you from these hazards.

A substance is “hazardous” if classified as either a “physical hazard” (flammables, explosives, etc.) or a “health hazard” (carcinogen, hepatotoxic, mutagen, etc.).



Each laboratory or shop that handles hazardous materials shall have a plan that addresses the availability of and/or documented training on: proper handling, storage (cabinets), MSDS, PPE, lab hoods and lab safety, required safety equipment and site-specific training, and proper disposal of hazardous materials.

The site-specific training is required 1) within 30 days of employment; 2) when working in a new area; 3) whenever a new material or procedure is introduced into the workplace; 4) whenever the Department Head or Supervisor determines that refresher training is in order or 5) at least annually.

OSHA is phasing in the new Globally Harmonized System of Hazard Classification and Labeling of Chemicals (GHS). The State Office of Risk Management requires that all employees are trained on GHS.

GHS makes two primary changes to the current program:

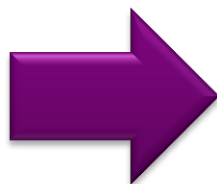
- MSDS changed to Safety Data Sheets (SDS)
- New labeling and pictograms


Product manufactures and distributors are required to adopt the standard in 2015, but you may see SDS and new hazard pictograms appearing sooner.

The current chemical safety programs employ Material Safety Data Sheets, which are written in a variety of formats.

GHS changed the name to Safety Data Sheets, and standardized the sections and information contained in the document.

Click the old MSDS to view the entire document





Material Safety Data Sheet

Hydrochloric Acid

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Hydrochloric Acid**

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd. Columbus, WI. 53025

For More Information Call: 920-823-2140 (Monday - Friday 8:00-4:30) IN CASE OF EMERGENCY CALL: CHEMTREC (24 Hours/Day, 7 Days/Week) 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS #	EINECS# / ELINCS#	Classification*
36 - 38%	Hydrochloric Acid	7647-01-0	231-695-7	C; R36, **

*Symbol and R phrase according to EC Annex1
** Subject to the reporting requirements of SARA Title III Section 313


3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R36 - Causes severe burns.

S1/2, S26, S30, S45

Routes of Entry: Skin, eyes, inhalation and ingestion.



Created on 11/30/2005 2:41:00 PM Page 1 of 7

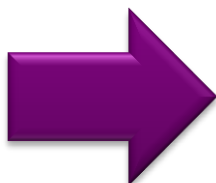


The new SDS format has 16 standardized sections:

1. Identification
2. Hazard(s) identification
3. Composition of ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/PPE
9. Physical/chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

SDS – Example of the New Format

Click the new SDS to view the entire document



SIGMA-ALDRICH

sigma-aldrich.com

Safety Data Sheet

Version 5.3
Revision Date 04/08/2013
Print Date 11/22/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Hydrochloric acid
 Product Number : 339253
 Brand : Sigma-Aldrich
 Supplier : Sigma-Aldrich
 3050 Spruce Street
 SAINT LOUIS MO 63103
 USA
 Telephone : +1 800-325-8832
 Fax : +1 800-325-5052
 Emergency Phone # (For both supplier and manufacturer) : (314) 778-6555
 Preparation Information : Sigma-Aldrich Corporation
 Product Safety - Americas Region
 1-800-621-8966

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Corrosive

GHS Classification
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H314

H335

Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statement(s)

P261

P280

P305 + P351 + P338

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/ physician.

P310

HMS Classification

Health hazard: 3

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 3

Fire: 0

Reactivity Hazard: 0

Similarly, the existing chemical labelling systems have non-standardized labels that look different for the same product. Labels also differ from country to country.

Required GHS Product Label Elements:

- Product identifier & chemical name
- Signal words – use “Danger” or “Warning” to indicate risk level
- Pictograms
- Hazard statements
- Precautionary information
- Supplier identifier

All labels will contain these 6 items. The formatting of these labels are not standardized, but the information is.

CHEMICAL NAME

The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

GHS 1.4.10.5.2 (d) (29 CFR 1910.1200(c))

PRODUCT IDENTIFIER

The name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

GHS 1.4.10.5.2 (d)

(29 CFR 1910.1200(c))

SIGNAL WORD

A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning". "Danger" is used for more severe hazards, while "warning" is used for the less severe.

GHS 1.4.10.5.2 (a) (29 CFR 1910.1200(c))

PICTOGRAMS

A composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under HCS and nine pictograms are designated under GHS for application to a hazard category.

GHS 1.4.10.4 (29 CFR 1910.1200(c))

SUPPLIER IDENTIFICATION

The name, address, and telephone number of the manufacturer, importer, or other responsible party.

GHS 1.4.10.5.2 (e) (29 CFR 1910.1200(f) (1) (vi))

PAINT (METHYL FLAMMALINE, LEAD CHROMIUM)

UN1263

CAS# XXXX-XX-X



DANGER

Causes damage to the liver and kidneys through prolonged or repeated exposure to the skin.

Highly flammable liquid and vapour.

Wash hands thoroughly after use and before eating.

Keep away from food and drink.

Keep away from heat and ignition sources.



FIRST AID

Call emergency medical care.

Wash affected area of body thoroughly with soap and fresh water.

HAZARD STATEMENT

A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Example: Fatal if swallowed.

GHS 1.4.10.5.2 (b) (29 CFR 1910.1200(c))

GHIS Paint Company, Chicago, IL, USA

Telephone 999 999 9999

GHISTRNWC1 LABELMASTER® (800) 621-5808 www.labelmaster.com

PRECAUTIONARY STATEMENT

A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.

Example: Do not eat, drink, or smoke when using this product.

GHS 1.4.10.5.2 (c) (29 CFR 1910.1200(c))

FIRST AID STATEMENT *

There are four types of precautionary statements presented, "prevention," "response," "storage," and "disposal."










GHS 1.4.10.5.2 (c)

(29 CFR Appendix C to 1910.1200-C.2.4.1)

The old hazard symbols, called “pictograms” were also different from country to country. GHS updates these to a standardized system for hazard communication.

GHS uses nine pictograms, which contain a black picture, indicating a hazard, set inside a red diamond. The pictograms are shown on the following slide.

New Pictograms

<p>Health Hazard</p> 	<p>Flame</p> 	<p>Exclamation Mark</p> 
<ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
<p>Gas Cylinder</p> 	<p>Corrosion</p> 	<p>Exploding Bomb</p> 
<ul style="list-style-type: none"> • Gases under Pressure 	<ul style="list-style-type: none"> • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals 	<ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p>Flame over Circle</p> 	<p>Environment (Non Mandatory)</p> 	<p>Skull and Crossbones</p> 
<ul style="list-style-type: none"> • Oxidizers 	<ul style="list-style-type: none"> • Aquatic Toxicity 	<ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

When chemicals are being transported a different set of pictograms are used on the packaging.

- Department of Transportation already adopted the GHS transport pictograms, so nothing will change. Transport pictograms are on the next slide for reference.
- Where a transport pictogram appears, the GHS pictogram for the same hazard should not appear. Transport pictograms will occur on the outside of the box the chemical is packaged in.

Transport Pictograms

Transport "Pictograms"



Flammable Liquid Flammable Gas Flammable Aerosol



“Spontaneously combustible”

Flammable solid Self-Reactive Substances



Pyrophorics (Spontaneously Combustible) Self-Heating Substances



Substances, which in contact with water, emit flammable gases (Dangerous When Wet)



Oxidizing Gases Oxidizing Liquids Oxidizing Solids



(extremely explosive, very sensitive)

Explosive Divisions 1.1, 1.2, 1.3



Explosive, yet no significant hazard

Explosive Division 1.4



Insensitive, yet still mass explosion hazard

Explosive Division 1.5



Less explosive and insensitive)

Explosive Division 1.6



Compressed Gases



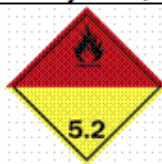
Acute Toxicity (Poison): Oral, Dermal, Inhalation



Corrosive



Marine Pollutant

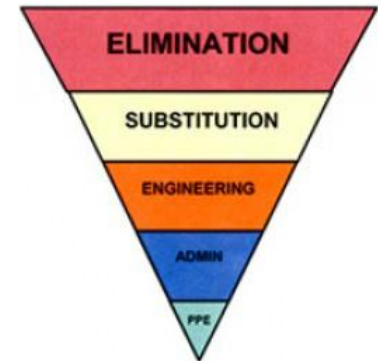


Organic Peroxides

Hazard Controls

The first consideration for controlling hazards is to **eliminate** the hazard or **substitute** a less hazardous material or process. When it is not possible to eliminate a hazard, you should control the hazard using the following methods (in order):

1. Engineering;
2. Administrative; and
3. Protective Apparel and Equipment (PPE).



Applying this hierarchy is a systematic approach to identify the most effective method of risk reduction. The highest-level feasible control should be selected.