CHAPTER 4 PRODUCT-SPECIFIC LABELING CONSIDERATIONS

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Introduction

This chapter provides information to be considered when labeling for specific product types and uses. The labeling issues identified below are based on regulatory requirements, historical practice and observations of product manufacturers. The labeling issues largely apply to consumer products, but might have some applications to workplace and commercial products also. Before attempting to draft or review a label, review the Preface, Chapters 1, 2 & 3 of this guide with the following items. Then, refer to the representative sample labels at the end of this chapter.

The Product-Specific Considerations included below are taken in their entirety from the ACA Industry Labeling Guide, Fifth Edition as Supplemented May 2005, and as included, in their entirety, in the Advance Supplement to the Labeling Guide, published in 2014, with some updates. Considerations below are based on historical practice within the industry.

ACA members are encouraged to review these considerations while ensuring industrial products also include GHS-conforming labels. Not all content in this chapter relates to industrial products. Users are cautioned to read and consider all information provided and determine applicability for product labels, based on whether the product is for industrial / professional use or for consumer use.

Product Specific Labeling Issues

1. Adequate Ventilation

Labels bearing such statements as “VAPOR HARMFUL,” warn users that these products should be applied with care, and that the users should take necessary precautions to minimize breathing vapors which may arise during application of these products.

The labeling statement, "Use only with adequate ventilation," has evolved over time (when used in conjunction with such statements as “VAPOR HARMFUL”) and may be supplemented with various additional related precautionary statements.

2. Fire Hazards

Under certain circumstances, products with a flash point above 20° F may generate enough flammable vapors to set the stage for a flash fire or explosion, and thus, should be labeled appropriately. Some factors to consider are quantity and flash point of the solvents in the mixture, quantity of product ordinarily used at one time, size of the surface area being contacted, method of application, place of application (indoors or outdoors), and size or container (a very small container may not contain enough solvent to reach a flammable vapor level).

3. Spontaneous Combustion

Improper handling or disposal of rags, paper and other items that have been used for applying or cleaning up paint or related products may ignite through the process of spontaneous combustion. This is common with the fish oil or vegetable oils often used in stains or wood fillers, but is not necessarily limited to these raw materials or products.

ACA recommends precautionary labeling for products whose formulation or anticipated use may warrant identification of a spontaneous combustion hazard. In assessing whether a product warrants spontaneous combustion hazard labeling, companies should use their professional judgment informed by various resources such as the NFPA Fire Protection Manual.

At least one state, Connecticut, Public Act No. 94-73, Title 21A Consumer Protection §21a-337, requires precautionary labeling of certain products sold or distributed in Connecticut related to the risk of spontaneous combustion. This statute compels specific conspicuous precautionary labeling language on drying oil and drying oil products. The statute requires a conspicuous warning label on a side or back panel of such product stating:

DANGER - RAGS, STEEL WOOL OR WASTE SOAKED WITH (INSERT PRODUCT NAME) MAY SPONTANEOUSLY CATCH FIRE IF IMPROPERLY DISCARDED. IMMEDIATELY AFTER USE, PLACE RAGS, STEEL WOOL OR WASTE IN A SEALED WATER-FILLED METAL CONTAINER.

For applicable products, a conspicuous label warning including the Connecticut required wording is recommended. Adoption of the Connecticut wording for such products would allow a manufacturer to use one label regardless of where the products are distributed.
4. Ingestion Hazard

Products that, upon ingestion, can cause illness or injury to humans are classified as “toxic by ingestion” under FHSA and must bear appropriate warnings, including a statement of the principal hazard(s), the identity of the chemical(s) that create the hazard(s), and the first aid instructions.

These factors are considered in the sample labels and suggested label statements, but there are special circumstances that also must be considered for products containing petroleum distillates, methanol, and lead and those packaged in aerosol cans (see below).

5. Vomiting

On Aug. 1, 1978, CPSC reported in the Federal Register (43 FR 33701-05) its final Statement of Policy on First Aid Directions for Inducing Vomiting, which states:

A. That it considers the use of a salt solution to induce vomiting (saline emesis) to be an unacceptable and frequently ineffective means of inducing vomiting;

B. That saline emesis is no longer recommended by the CPSC (16 CFR 1500.134) as an appropriate first aid direction; and

C. That, in cases where saline emesis has been recommended in the past, unless a particular contra-indication exists in connection with any particular hazardous substance, the CPSC considers ipecac syrup to be the appropriate emetic.

D. CPSC requires that first aid statements do not instruct to induce vomiting unless there is a specific and documented medical reason for the recommendation that has been identified by a qualified physician or poison control specialist. Note: Companies may wish to consult suppliers’ SDSs and/or with their own physicians, toxicologists, and lawyers concerning what constitutes appropriate first aid for their specific product formulations.

6. Petroleum Distillates (including toluene and xylene)

Most petroleum solvents used by the paint industry are not toxic by ingestion under the FHSA if they remain in the gastrointestinal tract, but a teaspoonful or even less may be fatal due to chemical pneumonitis if it gets into the lungs by aspiration. This can happen in a number of ways such as choking, gagging or vomiting.

Therefore, the FHSA regulations require special labeling for this hazard (see 16 CFR 1500.14(a)(3)(ii)), unless the viscosity of the product or of any liquid that may separate or be present in the container (tested at 100° F) is 100 Saybolt Universal Seconds (SUS) (21 centistokes) or higher—when the risk of chemical pneumonitis is substantially lessened (see 16 CFR 1500.83(a)(13)).

The Viscosity Comparison Chart below shows the relationship between various methods of measuring viscosity to the Saybolt Universal Scale. Although the chart is not precise to a mathematically absolute degree, it does permit determination of approximate relationship of the systems of measure contained therein.

In addition to the aspiration hazard, toluene and xylene possess a hazard from inhalation of the vapors, regardless of viscosity. If a product contains 10 percent or more (by weight) of toluene, 10 percent or more of xylene, or 10 percent or more of a mixture of the two, the words VAPOR HARMFUL must appear on the main panel in addition to any other statements of hazard, even if the product does not require an ingestion warning. One or both chemicals need to be named, with supplemental statements for adequate ventilation.

Because of the aspiration hazard, low viscosity mixtures (less than 100 SUS at 100° F) containing 10 percent or more petroleum distillates, toluene and/or xylene ordinarily require the first aid instruction: “If swallowed do not induce vomiting. Get medical attention immediately.” If the product contains more than 10 percent toluene and/or xylene, one or both of these chemicals should be named on a label. For most other petroleum solvents, the generic term “petroleum distillates” may be used. However, there may be instances where “other hazardous substances” must be named on the label.
7. Lead-Containing Paints

Any paints intended for use by consumers must meet federal requirements germane to the use of lead and residual lead content (see 16 CFR Part 1303). In 1972, CPSC issued its first regulations limiting the lead content in consumer paints to no more than 0.5 percent. In 1978, CPSC banned the use of lead-containing paints, defined as having lead content higher than 600 ppm. In 2009, CPSC further reduced the lead limit to 90 ppm.

CPSC states:

“Lead-containing paint means paint or other similar surface coating materials containing lead or lead compounds and in which the lead content (calculated as lead metal) is in excess of 0.009 percent by weight of the total nonvolatile content of the paint or the weight of the dried paint film.”

CPSC designates lead-containing paint as a banned hazardous product. Certain “special purpose” coatings are exempt from the ban, provided they bear certain labeling (See 16 CFR 1303.3):

**WARNING**

Contains lead. Dried film of this paint may be harmful if eaten or chewed. (See other cautions on side/back panel.)

Do not apply on toys or other children’s articles, furniture, or interior surfaces of any dwelling or facility which may be occupied or used by children.

Do not apply on exterior surfaces of dwelling units such as windows, sills, porches, stairs, or railings, to which children may be commonly exposed.

Keep out of reach of children.
The “special purpose” coatings identified in 16 CFR Part 1303.3(b) are:

1. agricultural and industrial equipment refinish coatings;
2. industrial (and commercial) building and equipment maintenance coatings, including traffic and safety-marking coatings;
3. graphic art coatings (i.e., products marketed solely for application on billboards, road signs, and similar uses and for identification marketing in industrial buildings);
4. touch-up coatings for agricultural equipment, lawn and garden equipment, and appliances; and
5. catalyzed coatings marketing solely for use on radio-controlled, model-powered aircraft.

CPSC also exempts certain products from the ban on lead-containing paint without requiring a cautionary label. These products are listed 16 CFR Part 1303.3(c) and are listed below:

1. Mirrors which are part of furniture articles to the extent that they bear lead-containing backing paint.
2. Artists’ paints and related materials.
3. Metal furniture articles (but not metal children’s furniture) bearing factory-applied (lead) coatings.

8. Surface Preparation Lead Hazard (ACA-State Attorney’s General Agreement)

On May 9, 2003, the National Paint and Coatings Association (now American Coatings Association or ACA) entered into an agreement with 50 state attorneys general that established a national program of consumer paint product warnings, point of sale information, and education and training regarding the potential exposure to lead-dust during the remodeling or renovation of buildings that may contain old lead-based paint.

The agreement called for an interim product sticker program and permanent product labeling to alert consumers that lead dust exposure may occur during the renovation and remodeling of buildings, which may contain old lead-based paint. A 19-month sticker program for consumer paints began for products manufactured on or after Sept. 30, 2003 and extended through April 30, 2005. The new labeling requirements began Dec. 31, 2004.

The new labeling requirements affect only consumer paints defined as “paints available to the consumer, including professional contractors, at the retail level. Consumer Paints includes all architectural coatings intended for interior and exterior applications to residences, public and private buildings and similar structures, and excludes adhesives and coatings recommended by the manufacturer for shop applications; non-stationary structures (e.g., airplanes, ships, automobiles and railcars); water proofing sealers and other deck coatings; field marking; and hobby craft coatings.”

The following is the label language applied to consumer paint products, under the agreement:

For large containers (one quart and larger):

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

For small containers (aerosols under 24 ounces, and liquid paints under 32 ounces):

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. Contact the National Lead Information Hotline at 1-800-424-LEAD or log onto www.epa.gov/lead.

[NOTE: For both labels, the type size requirements are not specified but should not be any smaller that the type size required for other hazard and precautionary warnings on the container. Placement of the warning should be in close proximity to the “directions for use” and, in particular, any surface preparation recommendations.]

In addition to the label warning requirements above, consumer paint manufacturers were also required to do “Sticker” labeling of large containers of consumer paints manufactured after Sept. 30, 2003 and through April 30, 2005. Stickers could be placed on the lid, top, plug or side of the container (using either an adhesive sticker or lithograph or heat stamped impression). The warning language required on the sticker is the same as the warning required for small containers above.
Consumer paint manufacturers also had the option of meeting both the labeling and “Sticker” requirements by using a “Sticker” with the large container (full) warning above but placement is limited to the lid, top or plug of the container. Use of the full warning “Sticker” began on Sept. 30, 2003 and continued through April 30, 2005, at which time the product label had to be amended to include the full warning or the “Sticker” label must appear indefinitely.

[NOTE: Containers subject to CPSC enforcement of the child-drowning hazard label (ASTM F1615-95), typically five-gallon containers, may incorporate the large container version of the warning on the side of the container opposite the child-drowning warning using the same label area and type size.]

9. Portland Cement-Containing Paints

In response to a complaint alleging that a paint-on product containing Portland cement had caused blindness, CPSC conducted biological testing of several such products. As a result of these tests, CPSC staff issued an advisory opinion which concluded that the following cautionary labeling must be included for Portland cement and products containing it:

**WARNING: INJURIOUS TO EYES**

(“CAUTION” may be used instead of “WARNING”; for Spanish translations use “Causes Eye Injury” rather than “Injurious to the Eye”)

CAUSES SKIN IRRITATION. (Use in products containing a high percentage of Portland Cement) Contains Portland cement. (Including “and lime” is appropriate.)

Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling.

In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately.

Keep out of reach of children.

NOTE: Because a direct translation of the statement “INJURIOUS TO EYES” is difficult, companies developing Spanish or French label copy should consider using the eye damage statements offered in Annex I of the EU CLP Regulation.

10. Aerosol and Self-Pressurized Products

Aerosol products that emerge from the container as a mist or fine droplets, and where ingestion by children is not reasonably foreseeable, do not ordinarily require the warning “HARMFUL OR FATAL IF SWALLOWED.”

Furthermore, in the unlikely event that the product would be sprayed into a cup and collected, the viscosity of the collected material may be high enough (100 SUS at 100°F or greater) to qualify for exemption from the special labeling required for petroleum distillates. (See “Petroleum Distillates” section above)

However, if the manufacturer feels that it is reasonably foreseeable that a child would collect and drink a sufficient quantity of the product to provide an aspiration hazard (16 CFR 1500.14(b)(3)(ii)), consult section about “Petroleum Distillates.”

In addition to the recommended cautionary labeling, ASTM Standard D-3789-79 (Labeling of Consumer Spray Paints) provides recommended label copy for directions for use. The purpose is the standardization of format and terminology among all manufacturers to promote safe use and proper application of the product. The label statements listed below are typically used when labeling aerosol/self-pressurized products:

A. CONTENTS UNDER PRESSURE
B. Do not puncture or incinerate (burn) container. Exposure to heat or prolonged exposure to sun may cause bursting. Do not expose to heat or store at temperatures above 120°F.
11. Deliberate Abuse

The manufacturer may wish to include the following statement warning against deliberate abuse (intentional misuse) of aerosol and other products:

WARNING! Use only as directed; intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

12. Multi-Component Kits

For two-package epoxy systems, antiquing kits or other multi-component systems that are packaged in kit form in one container, the outside of the container must state on the main panel, within a borderline, all of the following:

- Signal word for the most hazardous component of the kit.
- This kit contains the following chemicals that may be harmful if misused: (List hazardous chemical compounds by name.)
- Read cautions on individual containers carefully. Keep out of reach of children.

This requirement is outlined in 16 CFR 1500.83(a)(25):

Cleaning and spot-removing kits intended for use in cleaning carpets, furniture, and other household objects; kits intended for use in coating, painting, antiquing, and similarly processing furniture, furnishings, equipment, sidings, and various other surfaces; and kits intended for use in photographic color processing are exempt from the requirements of Section 2(p)(1) of the Act (repeated in part 1500.3 (b)(14)(i) and from the requirements of part 1500.14, provided that:

A. The immediate container of each hazardous substance in the kit is fully labeled and in conformance with the requirements of the Act and regulations thereunder; and

B. The carton of the kit bears on the main display label (or panels) within a borderline, and in the type size specified in part 1500.121, the caution statement “(Insert proper signal word as specified in paragraph (a)(25)(iii) of this section.) This kit contains the following chemicals that may be harmful if misused: (List hazardous chemical components by name.) Read cautions on individual containers carefully. Keep out of reach of children.”

C. If either the word “POISON” or “DANGER” is required on the container of any component of the kit, the same word shall be required to appear as part of the caution statement of the kit carton. If both “POISON” and “DANGER” are required for the labeling of any component or components in the kit, the word “POISON” shall be used. In all other cases the word “WARNING” or “CAUTION” shall be used.

For proper type size and further information refer to 16 CFR 1500.121.

13. Spray Equipment

Where a product is recommended for application by spray, the manufacturer may wish to include information and cautions about the spraying and/or the use of spray and protective equipment. This might be done in the directions for use, rather than in the warning sections covered by the various ACA sample labels. An example of such wording might be:

When spraying, follow spray equipment manufacturer’s recommendations carefully. Wear appropriate respirator, eye protection, and protective clothing.

14. Solvent Neurotoxicity

For several decades, the ACA Industry Labeling Guide has recommended a statement on the potential for brain and nervous system damage from occupational “overexposure” to organic solvents. Although studies do not provide clear evidence of solvent-exposure-induced neurotoxic effects, ACA continues to recommend the use of the solvent neurotoxicity label statement for paint, coatings and other formulated products containing organic solvents. ACA further recommends a statement against deliberately inhaling solvents.
Accordingly, ACA continues to recommend the following statement:

**NOTICE:** *Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.*

Concern arose in the 1980s, especially in Scandinavia, about a potential link between decreased performance on certain neurobehavioral tests and workplace “overexposure” to organic solvents. The early studies lacked a clear dose-response relationship, so ACA contracted with Johns Hopkins University to undertake epidemiology studies on a cohort of exposed U.S. workers. The results of the ACA-sponsored studies were published in 1990–1991 in four peer-reviewed articles. Although the collective studies showed no clear evidence of solvent-exposure-induced neurotoxic effects, they did note the following:

- “Painters’ syndrome,” a psycho-organic syndrome with a constellation of symptoms, was not found among the 187 workers at two paint manufacturing facilities.
- The olfactory system may be negatively impacted by solvent levels below occupational exposure limits; nonsmoking workers in the highest exposure category had smell-test scores below the fifth percentile for their age.

At a later date, ACA consulted with a board-certified toxicologist at Duke University (Durham, North Carolina) to see if updating the label statement was needed. The expert noted that sufficiently high exposures to some solvents can cause permanent structural damage to the brain, while other solvents cause anesthesia/narcosis symptoms due to membrane effects, which are generally reversible. No changes to the statement were made at that time.

The most recent information continues to indicate a general lack of correlation between occupational solvent exposure and neurotoxicity. A 2018 case-control study of construction painters found lifetime solvent exposure did not correlate with reduced performance for overall domains of function (motor/perceptual speed, visual contrast, attention, working memory/planning, and visual and verbal memory). A 2015 review provided insights into occupational and clinical definitions of solvent-induced or chronic or toxic encephalopathies, and a 1998–1999 survey in the European Union found the need for common guidelines for the diagnosis of solvent-related chronic encephalopathy. A 2003 literature review confirmed that no dose-response relationship can be detected among the studies reviewed and noted a lack of coherence between the human and experimental animal data. The conclusion of a 1996 review appears to still hold: “There is no basis for a hypothesis of an existing discrete neurological syndrome that is causally related to low-level exposure (as defined by recent or current OELs [occupational exposure limits]) to organic solvents.”

Regarding the deliberate misuse of solvents as inhalants, the National Institutes of Health maintain websites on inhalant abuse and note that “many young people inhale the vapors from [household products that contain volatile solvents or aerosols] in search of quick intoxication without being aware that using inhalants, even once, can have serious health consequences.”

For the aforementioned reasons, ACA continues to recommend the use of the solvent neurotoxicity statement for paint, coatings and other formulated products containing organic solvents, unless there is objective evidence offered by the solvent supplier that the solvent has been tested for neurotoxic effects and found to be innocuous.

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[https://www.drugabuse.gov/publications/research-reports/inhalants/letter-director](https://www.drugabuse.gov/publications/research-reports/inhalants/letter-director)
15. Methylene Chloride

In March 2019, EPA finalized a rule banning distribution of methylene chloride (DCM) paint removal products for consumer use. The ban took effect on November 22, 2019. See 40 CFR 751.

EPA's regulatory action for this final rule consists of:

(a) A prohibition on distribution in commerce of methylene chloride for paint and coating removal in containers with a volume of less than 55 gallons and 5 gallons for certain formulations; and

(b) Downstream notification for products with methylene chloride that are not covered by the ban by August 26, 2019. This part requires manufacturers, processors, and distributors of methylene chloride for any use, excluding retailers, to provide downstream notification of the prohibitions by adding to sections 1(c) and 15 of the SDS the following language: “This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.”

The rule also prohibits the distribution in commerce of methylene chloride in paint and coating removal products to and by retailers, where a distributor is considered a retailer if it supplies to at least one consumer or another retailer that provides to consumers. The rule includes record-keeping requirements for manufacturers, processors and distributors of methylene chloride.

Consumer products not covered by EPA's ban might be affected by requirements of the CPSC. On Sept. 14, 1987, the CPSC issued a “Statement of Policy” concerning products containing methylene chloride. Under this enforcement policy, CPSC took the position that methylene chloride and products containing it are “toxic” within the meaning of FHSA because they present a potential risk of cancer to humans.

Under FHSA, any hazardous substance intended or suitable for use in or around a household must bear appropriate cautionary labeling. The product labeling must meet all other FHSA requirements and address any other hazards presented by the product.

The CPSC modified its policy on methylene chloride with respect to paint stripping product in March 2018. With the subsequent EPA ban, CPSC's recommendations for paint strippers are no longer relevant. See 83 FR 12254.

For labeling requirements of industrial products containing methylene chloride, refer to OSHA Substance Specific Standard 29 CFR 1910.1052 and OSHA's Haz Com standard.

16. Ozone-Depleting Substances

The Clean Air Act Amendments of 1990 (CAAA), among other things, established a timely ban on chemicals known to contribute to the depletion of stratospheric ozone. The regulations developed pursuant to the CAAA also require (as of May 15, 1993) a warning label statement for products manufactured with an ozone-depleting substance:

Warning: Contains [name of substance] a substance which harms public health and environment by destroying ozone in the upper atmosphere.

To the extent that paint manufacturers are formulating a product with any of the identified ozone-depleting substances, this label must appear. Provisions of the regulations allow a manufacturer not to label in cases of incidental uses of ozone-depleting substances (i.e., when present as a contaminant in a paint raw material) or as a result of incidental contact with ozone-depleting substances in the manufacturing process. For information about labeling of volatile organic compounds, see Chapter 7 – Labeling of Volatile Organic Compounds.
17. Empty Containers

“Commercially empty” drums (drums that have been emptied by normal commercial practices but not yet purged) that once contained hazardous materials may retain hazardous residue. This residue can cause severe injury to those who divert such drums to other uses by cutting, welding or other forms of dangerous handling practices. Manufacturers may want to warn against these hazardous practices by considering the use of a special precautionary statement on the label. Listed below are samples of statements presently in use to cover this hazard.

**ATTENTION!**

**THIS CONTAINER HAZARDOUS WHEN EMPTY**

Since empty containers retain product residue (vapor or liquid), all labeled hazardous precautions must be observed. Do not reuse “empty package” without commercial cleaning or reconditioning.

**ATTENTION!**

Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Similarly, supplemental statements may be considered for assisting product users in the recycling/disposal of empty containers.

18. Five-Gallon Open-Head Plastic Containers

CPSC recommends voluntarily affixing an additional pictorial label that identifies the potential child-drowning hazard associated with the reuse of these containers as household buckets. These child-drowning labels must be consistent with American Society for Testing and Materials (ASTM) Standard F1615-95 entitled “Cautionary Labeling for Five-Gallon Open-Head Plastic Containers.”

**Note:** As a practical matter, labels for all products in 4-6 gallon containers should also conform to the California state regulatory requirements, which include metal and plastic containers. A brief review of the requirements of ASTM Standard F1615-95 is contained in Chapter 3 of the guide, and Chapter 5 provides a review of the California requirements.

CPSC intends to enforce compliance with the voluntary ASTM Standard using its authority under Section 15 of the Consumer Product Safety Act (CPSA), 15 USC 2064. This provision allows CPSC to take a number of actions with respect to a product it determines to pose a “substantial product hazard.” As a result, the primary charge of CPSC staff seeking enforcement of the voluntary ASTM standard will be to determine whether unlabeled five-gallon plastic buckets are defective products which pose a substantial risk of injury to the public. In doing this, CPSC may elect to require companies found not to be labeling their products to provide detailed information justifying their decision to not conform to the voluntary standard.

19. Labeling of Hazardous Art Materials

CPSC implements requirements for the labeling of art materials at 16 CFR 1500.14(b)(8). Here, CPSC adopts requirements of ASTM D 4236 *Practice for Labeling Art Materials for Chronic Health Hazards* as a regulation. CPSC is required to adopt ASTM D 4236 under the Labeling of Hazardous Art Materials Act (LHAM), 15 USC 1277 [Pub. L. 100 695]. LHAMA describes a procedure used to develop precautionary labels for art materials and provides hazard and precautionary label statements developed from knowledge that exists in the scientific and medical communities.

CPSC included one clarifying note during codification regarding the standard’s requirement for a “board certified toxicologist” review. CPSC is primarily concerned that a reviewer has sufficient knowledge based on a combination of education, training, and experience, and that the reviewer uses appropriate criteria to recommend complete and accurate labeling. CPSC does require a board-certified toxicologist do all art material reviews. (See 16 CFR 1500.14(b)(8) for additional explanation).

**ASTM D 4236 applies only to products determined to be art materials. While ASTM defines “art materials” as those products intended for use in the creation of a work of art, the operating definition of “art materials” is contained in 16 CFR Part 1500.14**
ASTM D 4236 requires that a toxicologist review art material formulations. It defines the term “toxicologist” as “any individual who through education, training, and experience has expertise in the field of toxicology, as it relates to human exposure, and is either a toxicologist or a physician certified by a nationally recognized certification board.”

20. Personal Protective Equipment (PPE)

PPE is a key component for reducing personal exposure to chemical(s) and chemical mixtures. PPE exists in a wide variety of types (i.e., respirators, gloves, eye protection), but is usually intended for very specific uses. Recommendations for personal protective equipment are usually found on (Material) Safety Data Sheets ((M)SDS). However, you may choose to include specific PPE statements on your product label or simply refer the end user to the product (M)SDS for recommended PPE. When recommending PPE, be as specific as possible (i.e., supplied air respirator, solvent impermeable gloves, glasses with side shields). The following are some suggested PPE statements.

Respirator Statements

Note: Information on the selection of respirators for specific exposure conditions is available free of charge from the National Institute for Occupational Safety and Health (NIOSH) at 4676 Columbia Parkway, Cincinnati, OH 45226, phone (513) 533-8287. Also, visit OSHA and NIOSH online and follow the links to respiratory protection: www.osha.gov and www.cdc.gov/niosh.

A. Wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer’s directions for use.

B. Wear an appropriate, properly fitted respirator (NIOSH approved, with approved dust pre-filter) during application unless air monitoring demonstrates dust level is below applicable limits. Follow respirator manufacturer’s directions for use.

C. If properly used, a respirator may offer additional protection. Obtain professional advice before using. A dust mask does not provide protection against vapors. Do not use in basement or other unventilated areas.

D. Avoid exposure to dust by wearing an appropriate NIOSH approved particulate respirator.

E. An airline respirator (NIOSH approved) is recommended. (Note: also suitable for materials containing monomeric isocyanates).

F. A vapor/particulate respirator (NIOSH approved) may be appropriate where airborne monitoring demonstrates vapor levels below 10 times the applicable exposure limits. Follow respirator manufacturer’s directions for respirator use.

G. Avoid exposure to dust by wearing an appropriate (NIOSH approved) particulate respirator during application, sanding and clean up.

Other Forms of PPE

A. Use solvent-resistant eyewear with splashguards. Solvent-impermeable gloves, clothing and boots are recommended to prevent skin contact.

B. Wear goggles or protective glasses with side shields.

C. Wear impermeable protective gloves.

D. Gloves are recommended to avoid prolonged or repeated contact with skin.

E. Wear appropriate gloves to prevent skin contact.

21. Cure Volatiles

Other sections of this guide provide adequate guidance for hazard statements, health effects, and preventive measures associated with intentionally added product ingredients and their constituents.

An area that has not been addressed elsewhere in this guide is the formation or liberation of hazardous chemicals by coatings products while in the shipping container or during cure. While it is difficult to generalize due to variations in polymer types and curing mechanisms within a generic technology classification, this Guide includes some issues to consider in labeling these types of products.
Following are some specific examples of product types and suggested labeling language. Each manufacturer is encouraged to determine the applicability of these statements for its specific chemistries, based upon product knowledge.

Please note that the examples below include only those statements that were considered to be relevant to the potential exposure scenarios described. However, manufacturers should consider each of the labeling statements recommended for a particular chemicals in this guide to determine which are applicable to their specific technology and potential exposure situation. The following are examples of label statements that can be used when additional chemicals may be formed or liberated in the shipping container or during product cure.

**Examples of Label Statements**

A. Drying Oil/Alkyd Cure

**Product:**
- Contains a drying oil and/or alkyd resin, which may release small amounts of hexanal and other higher molecular weight aldehyde vapors during drying and curing.

**Potential Hazard:**
- Hexanal and other higher molecular weight aldehyde vapors may be released during drying and curing.

**Potential Health Effects:**
- Causes nose and throat irritation.

**Precautionary Information:**
- Provide fresh air ventilation during application, drying, and curing.
- Maintain flow of fresh air until all vapors (odors) are gone.

B. Urea/Melamine Cure

**Product:**
- Contains melamine/formaldehyde resin capable of cross-linking under processing conditions and releasing formaldehyde gas.

**Potential Hazard:**
- Formaldehyde gas can be evolved when the material is heated under processing conditions.

**Potential Health Effects:**
- Harmful if inhaled.
- Causes nose and throat irritation.
- Causes lung irritation.
- Causes eye irritation.
- Possible cancer hazard. May cause cancer based on animal data.
- Can cause (organ) damage.

**Precautionary Information:**
- Use only with adequate ventilation.
- Avoid breathing vapor.
- Avoid contact with eyes, skin and clothing.
- KEEP OUT OF REACH OF CHILDREN.

C. Blocking Agent Released During Cure

**Product:**
- Contains a blocked crosslinker that will release the blocking agent (i.e., MEKO, glycol ether) and may release small amounts of the crosslinker during crosslinking/curing at elevated temperature, i.e., baking.
Potential Hazard:
• Contains a blocked crosslinker that will release the blocking agent (name of the blocking agent) and may release small amounts of the crosslinker during oven curing (baking).

Potential Health Effects:
• (Use statements appropriate for the chemical(s)).

Precautionary Information:
• Proper exhaust and ventilation of ovens is necessary to control workplace concentrations.

22. Direct Food Contact Coatings
Food and Drug Administration (FDA) regulation of coatings as food-contact materials is at 21 CFR 175. Compounds used to make coatings for direct application to food contact surfaces must be formulated and manufactured in accordance with the Federal Food, Drug and Cosmetic Act (FFDCA). Coatings manufacturers must supply facility operators using their direct food contact coatings with a letter of guaranty that the product is formulated in compliance with FFDCA. Title 21, Code of Federal Regulations (CFR), Section 7.12 and 7.13 offer a detailed description of acceptable guaranties for compliance purposes, which, at a minimum must contain the following information:

A. A statement that the materials complies with FFDCA and all applicable food additive regulations;
B. Brand name, product code, or other designation which specifically identifies the material;
C. Name and address of supplier;
D. A description of the intended use and conditions for such use; and
E. Signature of the official supplier.

23. Incidental Food Contact Coatings
Letters of guarantee are not required for paints and coatings used in construction or repair of surfaces not in direct contact with food (floors, walls, ceilings, etc.), and such products do not need to be formulated in conformance with the Federal Food, Drug and Cosmetic Act (FFDCA). The U.S. Department of Agriculture, under the Food Safety and Inspection Service (FSIS) has a directive (FSIS 11.300-14 (10/97)) which has established certain limitations for Incidental Food Contact Coatings used in federally inspected establishments:

A. Paints and coatings may not contain the heavy metals antimony, arsenic, cadmium, chromium (except chromic oxide), lead, mercury, selenium, or any materials such as carcinogens, mutagens, and teratogens classified as hazardous substances. Carcinogens are those classified by the National toxicology Program (NTP) as known human carcinogens. The mutagens and teratogens are those substances classified by OSHA as reproductive hazards.
B. Pesticidal coatings (e.g., containing biocides, fungicides, etc.) that require registration by the U.S. Environmental Protection Agency are not permitted to be used in food processing areas. Paints may contain antimicrobial agents to prevent microbial growth in the can or to protect the dry paint film.
C. Some ingredients in paints and coatings (e.g. pigments) may contain, as impurities, compounds that are restricted. This does not preclude their use, provided the use and reasonably foreseeable misuse of the product would not result in a daily intake regarded as toxicologically insignificant.

Additional information on the restrictions for incidental food contact coatings can be obtained by contacting the Food Safety Inspection Service of USDA: https://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/guidelines/1995-0001

24. Small Packaging Labeling Guidance
The UNECE offers guidance for labeling small packagings in the GHS, Rev. 8 (2019) at Section 1.4.10.5.4.4 at page 32.
Conclusion – Sample Labels and General Guidance

To create label, compile relevant pictograms, signal words, hazard statements and precautionary statements. In addition to the required GHS Statements, the label must include the following:

- a chemical identifier,
- the company name,
- company address and
- a telephone number where a user can receive additional information about the product and
- pictograms in a red 'square set on point,' which is large enough to see.

The sample labels below were “converted” from the ACA Industry Labeling Guide, Fifth Edition as Supplemented May 2005, to provide a corresponding GHS conforming label. The original and GHS- conforming labels have been included “side-by-side” to show comparison. In general, with the exception of the required pictograms under the GHS, label content, and even the labeling language are remarkably consistent. Many of the Precautionary Statements have important product specific language that must be considered when creating label.

Sample Label 1: Assigning Hazards OSHA HCS 2012

![Sample Label 1](image-url)
Sample Label 2: Extremely Flammable Substances OSHA HCS 2012

Highly flammable liquid and vapor
Causes serious eye damage
Causes severe skin burns and eye damage
May cause drowsiness or dizziness

May cause damage to organs through prolonged or repeated exposure

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/clothing wear eye/face protection. Wash [insert appropriate area] thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response:
In case of fire, use [appropriate media] to extinguish. If on skin (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. 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 control center or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove to fresh air and keep at rest in a position comfortable for breathing. Specific treatment (see ... on this label). Get medical advice/attention if you feel unwell.


Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Company name and address
Telephone Number

The required GHS statements are essentially the same for all categories of Flammable Liquids.
Sample Label 3: Methylene Chloride OSHA HCS 2012

PRODUCT ABC

DANGER

May Cause Cancer
Fatal if swallowed
Causes severe skin burns and eye damage

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash [insert appropriate area] thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If exposed or concerned: Get medical attention/advice. If swallowed, or you feel unwell: Immediately call a poison center or doctor. Specific treatment (see... on this label). Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove victim to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Company name and address
Telephone Number

Although the ECHA database only reports a Carcinogenicity Classification, due to industry practice Skin Corrosion / Irritation and Acute Toxicity – Oral were added.
Sample Label 4: Polyisocyanates OSHA HCS 2012

Sample Label 4 was prepared using the ECHA harmonized classification for Toluene Diisocyanate from Table 2, Chapter 2.
Sample Label 5: Powder Coatings OSHA

**PRODUCT ABC**

**DANGER**

- Toxic if swallowed.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- Toxic if inhaled.
- May cause genetic defects.

**May Cause damage to organs through prolonged or repeated exposure**
**May form combustible dust in concentrations in air**

**Prevention:** Wash [insert appropriate areas] thoroughly after handling. Do not eat, drink or smoke while using this product. Avoid breathing dust/fume/gas/mist/vapor/spray. Use only outdoors or in well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. Wear eye protection/face protection.

**Response:** If swallowed, or you feel unwell. Immediately call a poison center/doctor. Specific treatment (see on this label). Rinse mouth. If on skin: Wash with plenty of water. If skin irritation or rash occurs, Get medical advice/attention. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove victim to fresh air and keep comfortable for breathing.

**Storage:** Store locked up. Store in well-ventilated place. Keep container tightly closed.

**Disposal:** Dispose of contents/container in accordance with local/regional/national/international regulations

Company name and address

Phone Number