



# HTIS

azardous Technical Information Services



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## EPA Announces Final Amendments to the Oil SPCC Rule

*By Muhammad Hanif, Chemist, HTIS*

The Spill Prevention, Control, and Countermeasure (SPCC) rule outlines requirements for the prevention of, preparedness for, and response to oil discharges as part of the Oil Pollution Prevention regulation ([40 CFR Part 112](#)). Regulated facilities must develop and implement SPCC Plans that establish procedures and equipment requirements to help prevent oil discharges from reaching navigable waters or adjoining shorelines. On December 5, 2008, the EPA amended the SPCC rule to provide clarity, tailor requirements to particular industry sectors, and streamline certain requirements while maintaining protection of human health and the environment (73 FR 74236).

On November 5, 2009, the EPA Administrator signed a notice amending certain requirements of the Spill Prevention, Control, and Countermeasure rule in order to address additional areas of regulatory reform that have been raised by the regulated community. This action promulgates revisions to the December 2008 amendments as a result of the EPA's review of comments and consideration of all relevant facts. The EPA is either taking no action or providing minor technical corrections on the majority of the December 2008 provisions. However, this action modifies the December 2008 rule by removing the provisions to exclude farms and oil production facilities from the loading/unloading rack requirements, exempt produced water containers at an oil production facility, and provide alternative qualified facilities eligibility criteria for an oil production facility.

The final amendments to the SPCC rule were published on November 13, 2009, in the Federal Register ([74 FR 58783](#)); the amendments to the December 5, 2008 rule will become effective on January 14, 2010. Because of the uncertainty surrounding the final amendments to the December 5, 2008, rule and the delay of the effective date, the EPA will propose to extend the compliance date.

The following provisions finalized in the December 2008 final rule will become **effective on January 14, 2010, without further modification:**

- Exemptions for hot mixed asphalt (HMA) and HMA containers, pesticide application equipment and related mix containers, and heating oil containers at single-family residences, including those located at farms;
- Amended definition of "**facility**" to clarify the existing flexibility associated with describing a facility's boundaries;
- Amended facility diagram requirements to provide additional flexibility;
- New definition of "**loading/unloading rack**" to clarify the oil transfer equipment subject to the provisions for facility tank car and tank truck loading/unloading racks, as well as amended provisions for this equipment;
- Amended general secondary containment requirements to provide more clarity;
- Exemption of non-transportation-related tank trucks from the sized secondary containment requirements;
- Amended security requirements;
- Amended integrity testing requirements to allow greater flexibility in the use of industry standards;
- Amended integrity testing requirements for containers that store animal fats and vegetable oils (AFVOs) and meet certain criteria;
- Amended definition of "production facility";
- Clarification that drilling and work over activities are not subject to the provisions at §112.9;
- Exemption for certain intra-facility gathering lines at oil production facilities from the SPCC requirements;
- More prescriptive requirements for a flowline/intra-facility gathering line maintenance program for all production facilities and an alternative compliance option for flowlines and intra-facility gathering lines for contingency planning in lieu of all secondary containment;
- Alternative compliance option for flow-through process vessels at oil

production facilities to comply with the general secondary containment requirements and additional oil spill prevention measures in lieu of the sized secondary containment requirements;

- Definition of "produced water container" and alternative compliance measures for these containers which require general secondary containment, a process or procedure certified by a professional engineer (PE) designed to remove free-phase oil on the surface of the produced water in these containers and compliance with additional oil spill prevention measures in lieu of sized secondary containment requirements;
- Clarification of the definition of "**permanently closed**" as it applies to an oil production facility; and
- Technical corrections provided in the December 5, 2008.

The following provisions finalized in the December 2008 final rule will become **effective, with technical corrections, on January 14, 2010:**

- Exemption for underground oil storage tanks that supply emergency diesel generators at nuclear power generation facilities,
- Designation of a subset of "Tier I" qualified facilities with a set of streamlined SPCC rule requirements for which the owner or operator has the option to complete a self-certified SPCC Plan template in lieu of a full SPCC Plan, and
- Compliance date for new oil production facilities changes to November 10, 2010, to align with the current compliance date.

The following provisions finalized in the December 2008 final rule **were removed:**

- Exclusions for oil production facilities and farms from loading/unloading rack requirements,
- Alternative qualified facility eligibility criteria for an oil production facility, and
- Exemption for certain produced water containers.

**The SPCC rule applies to owners or operators of non-transportation-related onshore or offshore facilities that:**

Drill, produce, store, process, refine, transfer, distribute, use, or consume oil or oil products and could reasonably be expected to discharge oil in quantities that may be harmful into or upon the U.S. navigable waters or adjoining shorelines.

**Facilities are subject to the rule if they meet at least one of the following capacity thresholds:**

- Aboveground oil storage capacity greater than 1,320 U.S. gallons, or
- Completely buried oil storage capacity greater than 42,000 U.S. gallons.

**The following are exempt from the rule:**

- Containers with a storage capacity of less than 55 U.S. gallons of oil;
- Permanently closed containers;
- Motive power containers;
- Wastewater treatment facilities;
- Hot-mix asphalt and hot-mix asphalt containers;
- Residential heating oil containers at single family residences;
- Pesticide application equipment and related mix containers;
- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations;
- Intra-facility gathering lines subject to U.S. Department of Transportation's pipeline regulations; and
- Underground oil storage tanks at nuclear power generation facilities.

For additional information, please contact the superfund, TRI, EPCRA, RMP, and Oil Information Center at 800-424-9346 or TDD 800-553-7672, or visit the EPA Office of Emergency Management Web site <http://www.epa.gov/emergencies> or Review the Oil Pollution Prevention regulation (40 CFR Part 112) at GPO website <http://www.gpoaccess.gov/cfr/>. For detailed information on specific aspects of this final rule, please contact either Vanessa E. Principe at 202-564-7913 or Mark W. Howard at 202-564-1964, U.S. Environmental Protection

Agency, Mail Code: 5104A, 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0002

**References:**

1. EPA Oil Pollution Prevention, SPCC rule Amendments, Federal Register, Vol. 74, pages 58783-58832, Friday, November 13, 2009 (74 FR 58783)
2. EPA News release website: <http://www.epa.gov/newsroom/newsreleases.htm>
3. EPA Fact Sheet, document 530-F-08-016, November 2009: <http://www.epa.gov/emergencies/>

## **Formaldehyde Reclassified as a Human Carcinogen**

*By Abdul H. Khalid, Chemical Engineer, HTIS*

On November 4, 2009, the National Toxicology Program (NTP)'s expert panel on formaldehyde voted and recommended that formaldehyde be reclassified and listed as a known human carcinogen in its next Report on Carcinogens (12th ROC). The report titled, "Assessment of the Weight of Evidence of Formaldehyde as a Human Carcinogen" is available online at: [http://ntp.niehs.nih.gov/NTP/RoC/twelfth/2009/November/Public\\_Comments/Rhomberg20091016\\_B.pdf](http://ntp.niehs.nih.gov/NTP/RoC/twelfth/2009/November/Public_Comments/Rhomberg20091016_B.pdf).

In the 11th ROC, formaldehyde is listed as "reasonably anticipated to be a human carcinogen". Formaldehyde, CAS # 50-00-0, is an organic compound used in building materials and household products such as particle board, nail polish and glue. Formaldehyde is a colorless, flammable, and strong-smelling chemical that is also used as an industrial fungicide, germicide, and disinfectant, as well as a preservative in mortuaries and medical laboratories.

According to the Occupational Safety and Health Administration (OSHA), health care professionals, medical lab technicians, mortuary employees, and teachers who handle biological specimens are at elevated risks to formaldehyde exposure. The panel voted for a possible reclassification in the 12th ROC based on epidemiological studies of workers

exposed to formaldehyde that indicated a causal relationship between exposure and nasopharyngeal carcinoma, sinonasal adenocarcinoma, and myeloid leukemia. There was also evidence of carcinogenicity of formaldehyde from animal studies, which suggest that formaldehyde “can produce cancer at the point of contact in the upper respiratory tract via a cytotoxicity-induced cellular proliferation and/or a genotoxic mechanism”. Formaldehyde is awaiting a peer review process before it can be included in the 12th ROC by the National Institute of Environmental Health Sciences (NIEHS). NIEHS is one of three agencies that form the core of the National Toxicology Program, along with the National Institute for Occupational Safety and Health and National Center for Toxicological Research.

The International Agency for Research on Cancer classified formaldehyde as a known human carcinogen in 2004, and the Environmental Protection Agency classified it as a “probable” carcinogen in 1987. OSHA classifies formaldehyde as a “suspected” carcinogen.

#### Reference:

1. The National Toxicology's Program's 11th ROC, <http://ntp.niehs.nih.gov/index.cfm?objectid=32BA9724-F1F6-975E-7FCE50709CB4C932>
2. NTP's draft background document on formaldehyde is available at <http://ntp.niehs.nih.gov/ntp/roc/2009/November/Background/FormaldehydeDraftBackgroundDocument.pdf>

## News from DOE

### DOE Issues a Guidance Document on Elemental Mercury

*By Abdul H. Khalid, Chemical Engineer, HTIS*

On October 16, 2009, the U.S. Department of Energy (DOE) released its guidance document elemental mercury titled “U.S. Department of Energy Interim Guidance on Packaging, Transportation, Receipt, Management, and Long-Term Storage of Elemental Mercury”,

which is available online at:  
<http://www.mercurystorageeis.com>.

According to the Federal Register notice, this document provides general guidance with respect to the standards and procedures necessary to support the packaging, transportation, receipt, management, and long-term storage of elemental mercury generated in the United States. The Mercury Export Ban Act of 2008 (the Act), Section 5, requires the DOE to prepare guidance that “establishes procedures and standards for the receipt, management, and long term storage of elemental mercury.”

The Mercury Export Ban of 2008 prohibits the sale, distribution, or transfer of elemental mercury by federal agencies to other federal agencies, state or local government agencies, or private individuals or entities under control of a federal agency (with a few exceptions). It also prohibits the export of elemental mercury from the U.S. effective January 1, 2013, and requires the DOE to designate a long-term storage facility for elemental mercury generated in department facilities.

This Interim Guidance is intended to be a reference for a wide variety of individual users, industries, and regulatory organizations impacted by the Act. Potential users of this guidance document may include the following:

- Past generators, current owners, and custodians of elemental mercury;
- Recyclers of mercury bearing materials, wastes, and products (e.g., companies that recover dental amalgam);
- Major industrial generators of mercury, including the minerals mining industry (especially gold), chlor-alkali (chlorine and caustic soda production) industry, and electrical lighting (e.g., fluorescent lamp) industry;
- Private and government contractors managing stockpiled mercury;
- Shippers of elemental mercury;

- State and Federal regulatory agencies (e.g., EPA); and
- Future operators of an elemental mercury storage facility (or facilities) for DOE.

The DOE is working to identify an appropriate facility or facilities to manage and store the elemental mercury as required by the act.

**Reference:**

1. Federal Register, November 16, 2009, Vol. 74, No. 219, pages- 58952-58953; web site at: <http://edocket.access.gpo.gov/2009/E9-27395.htm>.
2. US Department of Energy Interim Guidance on Packaging, Transportation, Receipt, Management, and Long-Term Storage of Elemental Mercury, November 13, 2009, available online at: <http://www.mercurystorageeis.com>.

**News from DOT**

**Chemical Oxygen Generators Update**

*By Beverly Howell, Industrial Hygienist, HTIS*

Following the May 11, 1996 crash of ValuJet Airlines flight No. 596 the National Transportation Safety Board (NTSB) found that one of the probable causes of the fire in the airplane's cargo compartment was initiated and enhanced by the actuation of one or more chemical oxygen generators that were improperly carried as cargo. Following that tragedy, in which 110 lives were lost, the Department of Transportation (DOT):

- Prohibited the transportation of chemical oxygen generators (including personal-use chemical oxygen generators) on board passenger-carrying aircraft and the transportation of spent chemical oxygen generators on both passenger-carrying and cargo-only aircraft, 61 FR 26418 (May 24, 1996), 61 FR 68952 (Dec. 30, 1996), 64 FR 45388 (Aug. 19, 1999);

- Issued standards governing the transportation of chemical oxygen generators on cargo-only aircraft (and by motor vehicle, rail car and vessel), including the requirement for an approval issued by the Research and Special Programs Administration (RSPA), the predecessor agency to the Pipeline and Hazardous Materials Safety Administration (PHMSA), 62 FR 30767 (June 5, 1997), 62 FR 34667 (June 27, 1997);
- Upgraded fire safety standards for Class D cargo compartments on aircraft to require a smoke or fire detection system and a means of suppressing a fire or minimizing the available oxygen, on certain transport-category aircraft, 63 FR 8033 (Feb. 17, 1998); and
- Imposed additional requirements on the transportation of cylinders of compressed oxygen by aircraft and prohibited the carriage of chemical oxidizers in inaccessible aircraft cargo compartments that do not have a fire or smoke detection and fire suppression system, 64 FR 45388 (Aug. 19, 1999).

On September 15, 2009 the DOT, Pipeline and Hazardous Materials Safety Administration issued a direct final rule amending the Hazardous Materials Regulations to revise the **quantity limitation from 25 kg "gross" to 25 kg "net" for packages of chemical oxygen generators transported aboard cargo aircraft only**. The intended effect of this rule is to provide regulatory relief by raising the quantity threshold for shipments of chemical oxygen generators transported aboard cargo aircraft only. This action is necessary to address difficulties concerning implementation and compliance with the requirements for the transportation of chemical oxygen generators in outer packaging meeting certain flame penetration resistance standards and thermal protection capabilities, as evidenced by comments received from the hazardous materials industry and other interested parties. This direct final rule **became effective November 16, 2009**.

**Reference:** Federal Register: October 15, 2009, Volume 74, Number 198, Pages 52896-52900.

## **DOT's Alert on the Safe Transportation of Lithium Batteries**

*By Muhammad Hanif and Abdul Khalid, HTIS*

The Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Federal Aviation Administration (FAA) are alerting shippers and carriers to the importance of transporting lithium batteries safely. PHMSA and FAA are concerned that many people who ship lithium batteries do not recognize the hazards posed by these batteries during transportation. Jointly, they are issuing this advisory guidance to:

- Inform persons of recent aviation incidents involving fires aboard both passenger and cargo aircraft and the potential hazards that shipments of lithium batteries may present while in transportation,
- Provide information concerning the current requirements for the transportation of lithium batteries, and
- Inform persons of the actions taken to date and upcoming plan in the future to address the hazards associated with batteries.

Lithium batteries are considered hazardous materials in transportation because they present both a chemical (e.g., flammable electrolytes) and electrical hazards. If not safely packaged and handled when transported, lithium batteries can become dangerous. Defective batteries or batteries that are misused, mishandled, improperly packaged, improperly stored, improperly manufactured, or overcharged can overheat and ignite. Once ignited, fires can be especially difficult to extinguish. **Overheating has the potential to create a chain reaction leading to self-heating and release of the battery's stored energy.** Fires in aircraft can result in catastrophic events presenting unique

challenges not encountered in other transport modes.

On January 14, 2009, the PHMSA published final rules HM-215J and HM-224D entitled "Hazardous Materials: Revision to Requirements for the Transportation of Batteries and Battery Powered Devices and Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions." These new rules require reporting of all serious incidents involving batteries. They amend the Hazardous Material Regulations (HMR; 49 CFR parts 171-180) to require an air carrier, in the event of a serious incident, to immediately make available the shipping papers to an authorized official of a Federal, state, or local government agency and to notify the pilot-in-command of the information contained in these documents. These revisions represent a proactive approach to incident reporting and information dissemination. The PHMSA continues to collaborate with the FAA on various research projects pertaining to lithium battery safety

In the August 25, 2009, Federal Register (74FR45952), the PHMSA issued a notice of approval "Lithium Battery Shipping Descriptions" authorizing shippers (offerors) and carriers (transporters) of lithium metal and lithium ion cells and batteries for transportation in commerce, to describe these articles in the same manner as recently adopted in international regulations, even though the shipping descriptions have not been adopted into the HMR.

Since 1991, the PHMSA has identified over 40 air transport-related incidents involving lithium batteries and devices powered by lithium batteries. These incidents occurred aboard passenger aircraft and cargo aircraft, prior to loading batteries aboard an aircraft, and after batteries were transported by air. Many of the incidents were directly related to a lack of awareness of the required safety measures applicable to shipments of lithium batteries or because passengers failed to follow preventative measures to protect batteries from short circuit or damage. A list of these

incidents can be found on the FAA Web site at: [http://www.faa.gov/about/office\\_org/headquarters\\_offices/ash/ash\\_programs/hazmat/aircarrier\\_info/media/Battery\\_incident\\_chart.pdf](http://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/aircarrier_info/media/Battery_incident_chart.pdf)

The HMR (49 CFR parts 171-180) include requirements for packaging, hazard communication and handling lithium batteries. Effective October 1, 2009, for transportation by all modes, lithium batteries of all types and sizes must pass a series of tests as outlined in the UN Manual of Tests and Criteria. These tests are designed to ensure the battery can withstand the conditions typically encountered in transportation. In addition, all batteries must be packaged to prevent short circuits, including movement that could lead to short circuits and damage to the batteries (See Sec. 172.102(c), special provisions (SP) 188, 189, and Sec. 173.185). The HMR also impose additional restrictions on the transport of lithium batteries in the air mode, *including a limited prohibition on the transport of lithium metal batteries as cargo aboard passenger aircraft* (See SP A100). Additionally, **damaged, defective or recalled lithium batteries (including those being returned to the manufacturer as part of a safety recall) should not be transported aboard aircraft.** Recommended practices for preparing recalled batteries for ground transportation are set forth in "DOT Guidance for the Safe Transportation of Recalled Lithium Batteries," available for download at <http://safetravel.dot.gov/downloads.html>

The limited ban rule that was published in the Federal Register (72FR44929) on August 9, 2007, has amended the HMR by adopting a limited ban on primary, non-rechargeable lithium batteries, such as those found in cameras, laptop computers and mobile telephones, to reduce the risk of potential fire caused by electrical short circuit. This rule has also tightened standards for testing, handling, and packaging lithium batteries to reduce the likelihood of a lithium battery-related fire during shipment.

While certain small lithium batteries and cells are afforded exceptions from some regulatory requirements, the cells and batteries must be separated or packaged in a manner to prevent short circuits in compliance with SP 188 and 189. When a package contains multiple

lithium cells or batteries, the package must be:

- Marked to indicate that it contains lithium batteries and that special procedures should be followed in the event the package is damaged;
- Accompanied by a document indicating that the package contains lithium batteries and special procedures should be followed in the event that the package is damaged;
- Capable of withstanding a 1.2 meter drop test in any orientation without damage to cells or batteries contained in the package, without shifting of the contents that would allow short circuits and without release of package contents; and
- Not more than 30 kg (66 pounds) gross mass.

In addition, all electrical devices that are likely to create sparks or generate a dangerous quantity of heat are forbidden for transportation unless packaged in a manner that precludes such an occurrence (See Sec. 173.21).

To enhance understanding and compliance with the HMR, the PHMSA initiated several public outreach efforts designed to connect with both the travelling public and the larger shipping community. Since 2007 the PHMSA has published numerous safety advisories, created the SafeTravel Web site dedicated to providing information to the air travelling public on the safe transport of a variety of materials including lithium batteries and partnered with airlines, battery manufacturers and others to spread our safety message.

In March 2009, the DOT published a useful hazardous materials information booklet entitled "Shipping Batteries Safely by Air; What You Need to Know," targeting infrequent shippers who may be unfamiliar with appropriate packing methods. This guide describes DOT regulations covering the classification, packaging and hazard communication requirements for the transportation of batteries shipped by aircraft in terms easy to understand. The booklet is free through online request at:

[https://hazmatonline.phmsa.dot.gov/services/Pub\\_Free.aspx](https://hazmatonline.phmsa.dot.gov/services/Pub_Free.aspx).

*Despite these outreach efforts, aviation incidents involving lithium batteries continue to occur.* For example, the July 15, 2009, incident involved a shipment containing several thousand lithium ion cell phone batteries loosely placed into fiberboard packages, with no protection from short circuits and no package markings indicating the presence of lithium batteries. One of the packages was discovered emitting smoke after landing at its destination. These and similar incidents are the cause of significant concern by PHMSA and FAA. Documents included with the shipment indicated the packages contained non-hazardous used batteries.

Non-compliance with the transportation requirements for lithium batteries poses serious safety consequences. The PHMSA and FAA are again increasing their efforts to reduce this risk by stepping up the aggressive enforcement of the safety standards and reenergizing their awareness and outreach efforts.

Accordingly, the DOT is publishing this safety advisory to further promote awareness of the ongoing safety concern and ensure that shippers and carriers are aware of the risks associated with the transportation of lithium batteries, the current regulatory requirements applicable to such transportation, and that regulatory violations will be prosecuted to the maximum extent permitted under the law. The PHMSA and FAA are particularly concerned with undeclared shipments of lithium batteries and will be focusing on discovering these shipments and those persons responsible for offering them in transportation. The PHMSA is encouraging anyone with information on those engaged in this practice to bring them to PHMSA's attention through an online complaints website at: <http://www.phmsa.dot.gov/phmsa-ext/feedback/hazmatComplaintsRegsViolationForm.jsp> or by calling the Hazardous Materials Information Center at: 1-800-467-4922.

Persons who violate the HMR may be subject to significant civil penalties and/or criminal

finances and imprisonment. In determining the amount of a civil penalty, the following factors will be considered: (1) the nature, circumstances, extent, and gravity of the violation; (2) with respect to the violator, the degree of culpability, and history of prior violations, the ability to pay, and any effect on the ability to continue to do business; and (3) other matters that justice requires. Maximum civil penalties may be imposed of up to \$50,000 per violation or \$100,000 per violation if a death, serious illness, or severe injury occurs to a person or substantial destruction of property. Potential criminal penalties include fines of up to \$500,000 and/or ten years in jail. In a recent enforcement case, PHMSA assessed a total civil penalty of \$360,000 for multiple violations of the HMR relating to the improper shipment of used batteries for recycling or disposal. To date, the FAA has closed over 75 investigations concerning battery violations observed in air transport and has collected over \$1,000,000 in civil penalties.

More detailed information on the requirements in the HMR governing the shipment of batteries and additional guidance are available on DOT's Hazmat Safety Web site: <http://www.phmsa.dot.gov/hazmat>. Additionally, answers to specific HMR questions may be obtained from the Hazardous Materials Information Center at 1-800-467-4922 (in Washington, DC, call 202-366-4488).

**Reference:** DOT PHMSA [Docket No. PHMSA-2009-0310] Advisory Guidance; Transportation of Batteries and Battery-Powered Devices published in Federal Register, vol. 74, pages 51643-51645, October 7, 2009 (74FR51643).

## **PHMSA Revises Requirements for Emergency Response Telephone Numbers**

*Reprint submitted by Leonard Lambert, HTIS*

In the October 19, 2009 Federal Register (74FR53413) the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a final rule on the revision of

requirements for emergency response telephone numbers [Docket No. 2006-26322 (HM-206F)].

In this final rule, the Hazardous Materials Regulations (HMR) were amended to clarify requirements governing emergency response information services. Basic identifying information such as *offeror name* or *contact number* will be required on shipping papers so that emergency response information providers will be able to identify the offeror in the event of a hazardous materials incident.

PHMSA notes that in the event of a hazardous materials incident, the identification of the particular offeror who has made arrangements with the emergency response information service (ERI) is necessary. Without this contact information, the emergency responders access to information could be hindered and a resulting delay or improper response due to lack of information regarding the hazardous material may increase the risk to emergency personnel, as well as the general public.

The effective date of the final rule is October 1, 2010, and voluntary compliance is authorized November 18, 2009.

The revisions to the HMR adopted in this final rule are being made to:

- Require an offeror who has made an arrangement with an emergency response information (ERI) provider to be identified on the shipping paper in clear association with the emergency response telephone number
- Clarify that any person preparing a shipping paper for continued transport of a hazardous material must include the offeror's name that is the registrant for the ERI provider and that will be in use for the continued transport.
- Clarify that the person answering the ERI providers telephone number transmits all written information in English
- Clarify that the international telephone numbers used to meet the emergency

response telephone number requirement must include the international access code or a "+" sign as a placeholder

- Clarify the term "clear association" with respect to the placement of the identity of the registrant or the ERI provider
- Clarify the current requirement for the emergency response telephone number to be provided in a "clearly visible" location on the shipping paper
- Clarify that the emergency response telephone requirements do not apply to transport vehicles or freight vehicles containing lading that has been fumigated and displays the FUMIGANT marking, unless other hazardous materials are present in the cargo transport unit.

To access the HazMat Reference Gateway to view the report on the NPRM, click <http://www.hazmatship.com/content/view/21871/66/> .

**Reference:**

<http://www.hazmatship.com/images/stories/pdf/alert206f.pdf>

## News from EPA

### EPA Requires Reporting Greenhouse Gas Emissions

*By Abdul H. Khalid, Chemical Engineer, HTIS*

On October 30, 2009, the US Environmental Protection Agency (EPA) issued a final ruling on the mandatory reporting of Greenhouse Gases (GHG) emissions for all sectors of the economy. The final rule became effective on December 29, 2009. It applies to fossil fuel suppliers and industrial gas suppliers, direct greenhouse gas emitters and manufacturers of heavy-duty and off-road vehicles and engines. The rule does not require control of greenhouse gases, rather it requires only that sources above certain threshold levels monitor and report emissions. The full text of this rule

is available on line at:

<http://edocket.access.gpo.gov/2009/E9-23315.htm>.

The rule applies to certain down-stream facilities that emit GHGs, primarily large facilities emitting 25,000 metric tons or more of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) GHG emissions per year and to most upstream suppliers of fossil fuels and industrial GHGs, as well as to manufacturers of vehicles and engines. Reporting is at the facility level, except certain suppliers and vehicle and engine manufacturers report at the corporate level.

The EPA expects reporting from 10,000 facilities which approximate almost 85 percent of US GHG emissions. The rule requires reporting of annual emissions of:

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Sulfur hexafluoride (SF<sub>6</sub>)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Other fluorinated gases such as, nitrogen trifluoride (NF<sub>3</sub>) and hydrofluorinated ethers (HFEs).

The new rule also includes provisions to ensure the accuracy of emissions data through monitoring, recordkeeping and verification requirements

**Reference:** Federal Register, October 30, 2009, Vol. 74, No. 209, pages- 56259-56519.

## **EPA's Responsible Management of Tritium Exit Signs**

*By Ariel Rosa, Environmental Protection Specialist, HTIS*

Numerous incidents involving elevated tritium levels in municipal landfill leachate, Superfund sites, and emergency response to schools and other public places are directly connected to

broken radioactive Tritium self-luminous EXIT Signs or devices. Both the EPA and NRC consider these devices potentially hazardous, needing to be handled and properly disposed of to prevent unnecessary radiation exposure.

Government poison and hazardous materials hotlines and officials in emergency management, radiation protection, nuclear safety, public health and medicine may receive requests for help with Tritium EXIT Sign disposal or suspected contamination.

The EPA has developed an on-line training course, *Tritium Exit Signs, Responsible Management*, which provides detailed, easy-to-follow guidelines for identifying, using and proper disposing Tritium EXIT Signs. The training is free and is ideal for state and local officials, for owners, managers and maintenance personnel of public places including schools, hotels, malls, dorms, theaters and for green building designers. The goal is to reduce the potential environmental risks from tritium entering our soil and groundwater and to avoid elevated levels of radiation exposure from leaking tritium exit signs in confined indoor environments. The training is available on-line at [www.trainex.org](http://www.trainex.org) (search for "Tritium")

The EPA continues to promote proper disposal of Tritium EXIT Signs at the end of their useful life and recommends considering non-radioactive alternative technologies when purchasing replacements.

**Reference:**

<http://www.epa.gov/radiation/source-reduction-management/training.html>

## **EPA Guidance Document on Understanding Children's Exposure to Pollutants**

*By Abdul H. Khalid, Chemical Engineer, HTIS*

Recently, the U.S. Environmental Protection Agency (EPA) published a user friendly guidance document to help scientists and risk assessors understand children's exposure to pollutants. The EPA's document # EPA/600/R-08/135 is titled, "Highlights of the

Child-Specific Exposure Factors Handbook”. It is a quick-reference guide to understand child-specific exposure factors and work on children’s health issues related to daily activities such as drinking water, breathing, and eating foods. This guide provides important exposure information on:

- How much exposure to environmental pollutants might children get if they live or play near contaminated sites?
- How much dirt from a child's hands might she or he inadvertently eats?
- How much of a child's exposure to various pollutants might come from skin contact?
- Which age groups (childhood life stages) may inhale or ingest the most pollutants and thus may be at higher risks?

For further information on the documents, visit the EPA’s website at:

**Reference:**

1. EPA’s News Release, October 27, 2009, “EPA Releases Guide to Help Scientists Understand Children’s Exposure to Pollutants”, website at: <http://www.epa.gov/newsroom/newsreleases.htm>.
2. <http://www.epa.gov/childexpfactors/highlights>.

## FDA Opens Reportable Food Registry Electronic Portal

*By Ariel Rosa, Environmental Protection Specialist, HTIS*

The U.S. Food and Drug Administration (FDA) announced a new way to head off potential cases of food-borne illness, the [Reportable Food Registry](#) (RFR), which food industry officials must use to alert the FDA quickly, through an electronic portal when they find their products might sicken or kill people or animals. The requirement, a result of recent

legislation, took effect with the launch of the portal.

Facilities that manufacture, process or hold food for consumption in the United States now must tell the FDA within 24 hours if they find a reasonable probability that an article of food will cause severe health problems or death to a person or an animal.

The reporting requirement applies to all foods and animal feed regulated by the FDA, except infant formula and dietary supplements, which are covered by other regulatory requirements. Some examples of reasons a food may be reportable include:

- Bacterial contamination,
- Allergen mislabeling, and
- Elevated levels of certain chemical components.

The opening of the RFR electronic portal reflects a fundamental principle of the President’s Food Safety Working Group that “preventing harm to consumers is our first priority.” “By fostering real-time submission to the FDA of information on food safety hazards, the registry enhances FDA's ability to act quickly to prevent food-borne illness,” said Michael R. Taylor, senior advisor to the commissioner.

The requirements apply to any person who has to submit registration information to the FDA for a food facility that manufactures, processes, packs, or holds food for human or animal consumption in the United States. These people are termed **responsible parties**. A responsible party

- Must investigate the cause of the adulteration if the adulteration of food may have originated with the responsible party
- Must submit initial information; followed by supplemental reports
- Must work with the FDA authorities to follow up as needed

A responsible party is not required to report if it found the problem before the food was shipped and corrected the problem or destroyed the food.

**Reference:**

[www.fda.gov/ReportableFoodRegistry](http://www.fda.gov/ReportableFoodRegistry)

## News from NIOSH

### Dermal Exposure to Chemicals

*By Abdul H. Khalid, Chemical Engineer, HTIS*

The skin is the largest organ of the body. It is a barrier but a potential target for chemical exposure at the same time. Skin contact with chemicals is the main cause of occupational illnesses/diseases and affects workers in almost every workplace in many different situations and in an industrial set up.

The Occupational Safety and Health Administration (OSHA) reported that the number of cases of occupational skin diseases or disorders have increased during the last decade.

Estimated total costs, lost work days, and loss of productivity related to occupational diseases and illnesses can be avoided by taking proactive steps such as encouraging personal hygiene (**hand washing**), implementing engineering controls (local exhaust systems), substituting non hazardous or less irritating/toxic chemicals, practicing good housekeeping, and using proper personal protective equipment (PPE) that is appropriate for the specific chemicals hazards. An effective safety program to minimize exposure of skin to allergens and irritants is important to reduce occupational contact dermatitis.

In July 2009, the National Institute for Occupational Safety and Health (NIOSH) announced a new strategy to help employers, workers, and others better identify the occupational hazards posed through skin contact with chemicals in the workplace and effective precautions in controlling contact dermatitis.

The strategy is described in a new publication, "[NIOSH Current Intelligence Bulletin 61: a Strategy for Assigning New NIOSH Skin Notations](#)." It revises and updates the framework used by NIOSH for developing notations in the "NIOSH Pocket Guide to Chemical Hazards" to identify occupational skin hazards posed by workplace chemicals. Work-related skin diseases account for an estimated 15 to 20 percent of all reported occupational diseases in the U.S., with total annual costs of up to \$1 billion. The Pocket Guide is widely used by safety and health professionals, businesses, and workers to identify and safeguard against potential occupational hazards from workplace chemicals.

Under the new strategy, NIOSH will develop notations for the Pocket Guide to identify whether skin contact with a given chemical can result in direct effects such as skin irritation or skin corrosion, immune-mediated effects such as allergic contact dermatitis or asthma, systemic effects (e.g., toxic effects to the body's biological systems, resulting from the absorption of the chemical through the skin), and/or fatal effects from extreme toxicity. For example, a chemical for which skin contact would result in the direct effect of irritation would have the notation "SK: DIR (IRR)." Also, when numerous hazards are associated with skin contact, notations would be assigned accordingly, for example, a chemical associated with systemic toxicity and corrosion through skin contact would be identified with the notation "SK: SYS-DIR (COR)." Notations will also be used to identify chemicals that do not cause any effects associated with skin contact; chemicals for which insufficient data exist as to whether skin contact is associated with a hazard; and chemicals that have not yet been evaluated under the new framework, and whose potential for risk through skin contact is unknown will be identified with the notation.

Currently, skin notations in the Pocket Guide simply say "skin," and are meant only to indicate that the chemical can be harmful to the body's biological systems as a result of absorption through the skin. The current notations are not intended to identify other adverse effects. The new strategy will help

avoid unintended misuse of skin notations, will help users more quickly identify the specific nature of the hazard or hazards associated with skin contact with a given chemical, will promote greater standardization in developing skin notations, will reflect contemporary scientific knowledge, and will make the process of developing the notations more transparent.

NIOSH will assign skin notations based on a critical assessment of a chemical's physical and chemical properties, reports of human exposures and health effects, empirical data from laboratory testing, and data from computer algorithms and mathematical models. Bulletin 61 describes these decision-making processes in detail. The bulletin, DHHS (NIOSH) Publication No. 2009-147, is available online at:

<http://www.cdc.gov/niosh/docs/2009-147/>.

Point of contact on this announcement is Fred Blosser, NIOSH at phone: 202-245-0645.

#### References:

1. NIOSH Update, July 17, 2009, "Chemical Skin Hazard Strategy Revised by NIOSH to Provide More Useful Skin Notations", web site at: <http://www.cdc.gov/niosh/docs/2009-147/>.
2. OSHA's web site at: <http://www.osha.gov/SLTC/dermalexposure/evaluation.html>.

## News from OSHA

### OSHA Issues Letter of Interpretation on Hexavalent Chromium

*By Philip Saunders, Chemical Engineer, HTIS*

In a June 29, 2009, Letter of Interpretation (LOI) OSHA addressed the elimination or reduction of exposure to hexavalent chromium [aka chromium (VI)]. The LOI was issued in response to a letter which asked OSHA to ban the use of hexavalent chromium and accused the agency of not enforcing its Chromium (VI) Standards.

One item of interest contained in this LOI was a reminder that OSHA does not have the

authority to ban the use of any hazardous material. That authority has been delegated to the Environmental Protection Agency through various laws such as the Toxic Substances Control Act (TSCA). While OSHA may not ban a substance, it does have the authority to enforce standards related to workplace exposure to it.

The LOI argues that the best alternative to a complete ban (which would not be legal) is to encourage the use of product substitution to reduce exposure of employees to chromium. The LOI also points out that there are some cases, where product substitution would not be possible, such as industrial processes where hexavalent chromium is created as a byproduct of high temperature oxidation of non-hexavalent chromium to chromium (VI) (such as during welding stainless steel). In such cases, rather than banning the process, OSHA says that employers may use engineering controls and the LOI points out that there is a **May 31, 2010 deadline** to have such control systems installed and in use. Until these controls are in place, respirators must be used so that employee exposure to the substance is below the permissible exposure limit (PEL) that also went into effect as a part of the standard.

The LOI also disputed the charge that they have not been enforcing the Chromium (VI) Standard. They pointed out that, in the three years since the standard went into effect in 2006, there have been more than 250 inspections concerning hexavalent chromium, that resulted in citations, with most of the citations being due to lack of exposure monitoring. In addition, the LOI mentions that OSHA is currently developing a national emphasis program (NEP) that focuses specifically on improving enforcement of existing Chromium (VI) standards.

**Reference:** <http://www.osha.gov/comp-links.html>, click on 'Interpretation Letters & Memos' and look in those letters issued in June 2009.

## OSHA Form 300A Summary of Work-related Injuries and Illnesses

*By Abdul H. Khalid, Chemical Engineer, HTIS*

Each year, the Occupational Safety and Health Administration (OSHA) reminds employers to post OSHA Form 300A, a summary of the total number of job-related injuries and illnesses that occurred the previous year, from February 1 to April 30.

For the year 2009, employers are required to check the OSHA Form 300 which is a log of work-related injuries and illnesses for completeness and accuracy and post the "Summary in the OSHA Form 300A" from February 1, 2010 to April 30, 2010. **The OSHA 300 log is not to be used for this purpose.**

The summary in the OSHA Form 300A lists the total numbers of job-related injuries and illnesses that occurred in 2009 and recorded in the OSHA Form 300 and must be posted in a common area wherever notices to employees are usually displayed.

Program elements and related matters for recordkeeping and reporting requirements are described in OSHA regulations 29 CFR Part 1960 for Federal sector. According to 29 CFR 1960.71 (d), "Each Federal agency shall post a copy of its agency annual summary of Federal occupational injuries and illnesses for an establishment, as compiled pursuant to 1960.67 or 1960.69, at such establishment, not later than 45 calendar days after the close of the fiscal year or otherwise disseminate a copy of the annual summary for an establishment in written form to all employees of the establishment. Copies of the annual summary shall be posted for a minimum of 30 consecutive days in a conspicuous place or places in the establishment where notices to employees are customarily posted. Where establishment activities are physically dispersed, the notice may be posted at the location to which employees report each day. Where employees do not primarily work at or report to a single location, the notice may be posted at the location from which the employees operate to carry out their activities.

Each Federal agency shall take necessary steps to ensure that such summary is not altered, defaced, or covered by other material".

Federal employee occupational safety and health program requirements for recordkeeping and reporting are almost the same as that for the private sector. Employers are to do the following:

- Check and review OSHA Form 300 for accuracy and the record for work-related injuries and illnesses are complete for the year 2009.
- Complete OSHA Form 300A using the worksheet to calculate the average number of employees and the total hours worked by all employees. Facilities with no recordable injuries or illnesses in 2009 must post the form with zeros on the total line.
- OSHA Form 300A must be certified and signed by the designated officer by the commander of the facility. OSHA Form 300A must be displayed from February 1, 2010 until April 30, 2010 in an area wherever notices to employees are usually posted.

**Reference:** Injury and Illness Recordkeeping <http://www.osha.gov/recordkeeping/index.html>

## OSHA Updates the Acetylene Regulations

*By Muhammad Hanif and Ariel Rosa, HTIS*

In the November 10, 2009, Federal Register, OSHA confirmed the effective date of its direct final rule that revises the Acetylene Standard for general industry. The revised rule became effective **November 9, 2009**, and updates the existing standard (29 CFR 1910.102) that reference or include language from outdated standards published by the Standards Developing Organizations (SDO). The revision, recommended by both the Compressed Gas Association (CGA) and the US Chemical Safety Board, is another step

in updating outdated references in OSHA's standards. This rulemaking is a continuation of OSHA's ongoing effort to update references to SDO standards used throughout its rules.

Acetylene is defined as a simple asphyxiant. It is slightly lighter than air. Pure acetylene is a colorless, highly flammable gas with an agreeable ethereal (ether-like) odor, but the odor of the commercial purity grade is distinctively garlic-like. OSHA does not have a permissible exposure limit for acetylene, but the National Institute for Occupational Safety and Health has recommended an exposure limit of C 2500 ppm (2662 mg/m<sup>3</sup>).

Acetylene is commonly used for gas welding and cutting metals and ceramics. When mixed with pure oxygen in a cutting torch assembly, an acetylene flame can theoretically reach over 5700°F, according to a Mine Safety and Health Administration fact sheet on Special Hazards of Acetylene.

Acetylene can be safely stored and used in cylinders filled with a porous material and containing a solvent (acetone) into which the acetylene has been dissolved. Acetylene cylinders are handled and stored in an upright position to prevent loss of acetone in storage and handling.

The revised standard requires that employers ensure that in-plant transfer, handling, storage and use of acetylene cylinders comply with CGA Pamphlet G-1-2003, "Acetylene". Piping systems, as well as facilities and equipment, used to generate acetylene or to fill acetylene cylinders are required to comply with National Fire Protection Standard (NFPA) 51A, "Standard for Acetylene Charging Plants".

OSHA uses direct final rules in the SDO rulemaking project because it expects the rules to:

- Be noncontroversial,
- provide protection to employees that is at least equivalent to the protection afforded to them by the outdated SDO standard, and
- impose no significant new compliance costs on employers.

OSHA says that the final rule replaces an "unenforceable SDO standard" at section 1910.102(b) of the current regulation (29CFR1910.102), which references a CGA Pamphlet G-1.3-1959 "Acetylene Transmission for Chemical Synthesis" on piped systems, which is no longer published by the CGA. OSHA believes that replacing the unenforceable SDO standard clarifies employers' compliance obligations and prevents inappropriate enforcement action, while also increasing employee protection.

The Agency determined that updating and replacing the SDO standards in the Acetylene Standard is appropriate for direct final rulemaking. As described by OSHA, the revisions will make the requirements of OSHA's Acetylene Standard consistent with current industry practices, thereby eliminating confusion and clarifying employer obligations. Eliminating confusion and clarifying employer obligations should increase employee safety while reducing compliance costs

The OSHA's Acetylene Standard for general industry is available at [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=9748&p\\_table=standards](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9748&p_table=standards)

#### References:

Federal Register // 57883 Vol. 74, No. 216 // Tuesday, November 10, 2009

## Guidelines to Designate Bio-based Items Amended

By Abdul H. Khalid, Chemical Engineer, HTIS

The US Department of Agriculture (USDA) amended its Guidelines for Designating Bio-based Products for Federal Procurement and added **nine sections** to designate items within which "Bio-based Products" would be afforded Federal procurement preference as provided under section 9002 of the Farm Security and Rural Investment Act of 2002. This rule became effective on November 27, 2009.

The full text of this document is available online at: <http://edocket.access.gpo.gov/2009/E9-25756.htm>.



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