

SAFETY DATA SHEET

Classified in accordance with Health Canada Hazardous Products Regulations (SOR/2015-17)

1. Identification

Product identifier: Benzene**Other means of identification****Common name(s),** Benzene, benzol**synonym(s):****SDS number:** NOVA-0011**Recommended use and restriction on use****Recommended use:** Petrochemical industry: solvent, raw material for petrochemicals.**Restrictions on use:** All uses other than the identified.**Manufacturer/Importer/Supplier/Distributor Information****Manufacturer**

Company Name: NOVA Chemicals
Address: P.O. Box 2518, Station M
Calgary, Alberta, Canada T2P 5C6
Telephone: Product Information: 1-412-490-4063
SDS Information Email: msdsemail@novachem.com

Emergency telephone number:

1-800-561-6682, 1-403-314-8767 (NOVA Chemicals) (24 hours)

1-800-424-9300 (CHEMTREC) (24 hours)

2. Hazard(s) identification

Hazard Classification According to Hazardous Products Regulations**Physical Hazards**

Flammable liquids	Category 2
Physical Hazards Not Otherwise Classified (PHNOC) - Static-accumulating flammable liquid	Category 1

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Repeated Exposure	Category 1
Aspiration Hazard	Category 1

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 3

Label Elements**Hazard Symbol:**



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapour.
Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment.
Sparks may ignite liquid and vapour.
May cause flash fire or explosion.
Causes skin irritation.
Causes serious eye irritation.
May cause genetic defects.
May cause cancer.
Causes damage to organs through prolonged or repeated exposure. (Blood)
May be fatal if swallowed and enters airways.
Toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection. Avoid release to the environment.

Response: IF SWALLOWED: Immediately call a POISON CENTRE. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water [or shower]. If skin irritation occurs: Get medical advice. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. IF exposed or concerned: Get medical attention. In case of fire: Use dry chemical, foam, carbon dioxide (CO₂), water spray or fog to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents and container in accordance with local regulations.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
Benzene	Benzol	71-43-2	99.85 - 99.99%

^{*} All concentrations are percent by weight.

Additional Information: This product is considered hazardous by the Hazardous Products Regulations.

4. First-aid measures

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE if you feel unwell.

Ingestion: IF SWALLOWED: Immediately call a POISON CENTRE. Do NOT induce vomiting.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water [or shower]. If skin irritation occurs: Get medical advice.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Skin irritation. Eye irritation. Vomiting, nausea, abdominal pain and central nervous system effects including headache, dizziness, drowsiness, and unconsciousness. Reduced white blood cell count.

Indication of immediate medical attention and special treatment needed

Treatment: Ensure thorough eye and skin decontamination. Treat unconsciousness, nausea, hypotension, seizures and cardiac dysrhythmias in the conventional manner. Adrenergic (epinephrine, norepinephrine) and dopaminergic agonists should be avoided during treatment or used with caution (lowest effective dose) because of possible cardiac sensitization by this product mixture. Administer oxygen by mask if there is respiratory distress, any change in level of consciousness, or cardiac rhythm disturbance. Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use the method least likely to cause aspiration, such as gastric lavage after protecting the airway. Observe hospitalized patients for delayed chemical pneumonia, acute tubular necrosis, encephalopathy, dysrhythmias, and bone marrow toxicity/reduced blood cell counts. Urine collection (within 12 hours of exposure) for S-Phenylmercapturic Acid (SPMA) analysis can be used to assess the extent of benzene absorption.

5. Fire-fighting measures

General Fire Hazards: Highly flammable liquid and vapour. Vapours are heavier than air and may travel to a source of ignition and flash back. Closed containers may rupture violently when heated. Material will float and can be re-ignited on surface of water. If tank, rail car or tank truck is involved in fire, ISOLATE for 800 metres (1/2 mile) in all directions; also, consider initial evacuation for 800

metres (1/2 mile) in all directions. Vapours may form explosive mixture with air. Keep containers away from source of heat or fire. This product may be a static accumulator which can form an ignitable vapour-air mixture in a storage tank.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use dry chemical, foam, carbon dioxide (CO₂), water spray or fog to extinguish. Use water to cool fire-exposed containers and to protect personnel.

Unsuitable extinguishing media: Do not use straight/direct streams as this may actually spread flames.

Specific hazards arising from the chemical: Upon combustion, this product emits carbon monoxide, carbon dioxide, low molecular weight hydrocarbons.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: Keep upwind. Keep unauthorized personnel away. Move containers from fire area if you can do so without risk. Fight fire from maximum distance or use unmanned holders or monitor nozzles. Immediately withdraw in case of fire and container venting or heat discoloration of a container. Avoid inhaling any smoke and combustion materials. Remove and isolate contaminated clothing and shoes. Cool containers with flooding quantities of water until well after the fire is out. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Reference Emergency Response Guidebook No. 130 for additional details and instructions.

Special protective equipment for fire-fighters: Wear positive pressure self-contained breathing apparatus (SCBA).

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear appropriate personal protective equipment. Isolate area. Keep unauthorized personnel away. Alert stand-by emergency and fire-fighting personnel. Monitor surrounding area for buildup of flammable concentrations in air.

Methods and material for containment and cleaning up: Do not touch or walk through spilled material. In case of leakage, eliminate all ignition sources. As an immediate precautionary measure, isolate spill or leak area for at least 50 metres (164 feet) in all directions. Keep upwind. Keep out of low areas. Stop leak if safe to do so. Contain discharge by booming on water or diking on ground. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

Small Spills: Remove liquid material with non-sparking approved pumps, skimmers or vacuum equipment. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use non-sparking tools.

Large Spills: Consider downwind evacuation for 300 metres (1000 feet). Dike far ahead of larger spills for later disposal. Spills on water will volatilize rapidly, making containment or recovery difficult. A vapour-suppressing foam may be used to reduce vapours. Remove pooled liquid material with approved, non-sparking pumps, skimmers or vacuum equipment. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Soil remediation may be required.

7. Handling and storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use non-sparking tools. Take action to prevent static discharges. For additional information on equipment bonding and grounding, refer to the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity". For additional information on storing and handling flammable liquids, refer to the National Fire Protection Association (NFPA) 30, "Flammable and Combustible Liquids Code". Take special precautions when cold cutting or breaking into lines, or when cleaning and disposing of empty containers. Parts and equipment should be steam cleaned prior to maintenance procedures. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Keep away from incompatible materials such as oxidizing agents and acids. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. In case of inadequate ventilation, use respiratory protection. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities:

Storage area should be clearly identified, well-illuminated and clear of obstruction. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Only allow access to authorized persons. Store and handle in properly designed pressure vessels and equipment. Store and use away from heat, sparks, open flame, or any other ignition source. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Have appropriate extinguishing capability in storage area (e.g. sprinkler system, portable fire extinguishers) and flammable gas detectors. Keep absorbents for leaks and spills readily available. Consider use of internal floating roof tanks or flame arrestors. Inspect vents during winter conditions for vapour ice buildup. Storage tanks should be above ground and diked to hold entire contents. Store away from incompatible materials. Store according to applicable regulations and standards for flammable materials.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	type	Exposure Limit Values		Source
Benzene	STEL	2.5 ppm	8 mg/m ³	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended
	TWA	0.5 ppm	1.6 mg/m ³	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended
Benzene	STEL	2.5 ppm		Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended
	TWA	0.5 ppm		Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended
Benzene	STEL	2.5 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended

	TWA	0.5 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended
Benzene	TWA	1 ppm	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended
	STEL	5 ppm	15.5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended
Benzene	REL	0.1 ppm		US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Benzene	STEL	1 ppm		US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Benzene	IDLH	500 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended
Benzene	TWA	0.02 ppm		US. ACGIH Threshold Limit Values, as amended

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Benzene (S-Phenylmercapturic acid: Sampling time: End of shift.)	25 µg/g (Creatinine in urine)	ACGIH BEI
Benzene (t,t-Muconic acid: Sampling time: End of shift.)	500 µg/g (Creatinine in urine)	ACGIH BEI

Exposure guidelines

Chemical Identity	Notations	Source
Benzene	Can be absorbed through the skin.	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended
	Can be absorbed through the skin.	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended
	Can be absorbed through the skin.	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended

Appropriate Engineering Controls

Engineering methods to reduce hazardous exposure are preferred controls. Methods include mechanical ventilation (dilution and local exhaust) process or personal enclosure, remote and automated operation, control of process conditions, leak detection and repair systems, and other process modifications. Ensure all exhaust ventilation systems are discharged to outdoors, away from air intakes and ignition sources. Supply sufficient replacement air to make up for air removed by exhaust systems. Administrative (procedure) controls and use of personal protective equipment may also be required.

Individual protection measures, such as personal protective equipment (PPE)

General information: Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.

Eye/face protection: Safety glasses. Chemical goggles are recommended if splashing is possible or to prevent eye irritation from vapours.

Skin Protection
Hand Protection: Chemical resistant gloves.

Skin and Body Protection:	Wear appropriate clothing to prevent any possibility of skin contact. Wear work clothes with long sleeves and pants. If splashing or contact with liquid material is possible, consider the need for an impervious overcoat. Fire resistant (i.e., Nomex) or natural fibre clothing (i.e., cotton or wool) is recommended. Synthetic clothing can generate static electricity and is not recommended where a flammable vapour release may occur. Wear chemical-resistant safety footwear with good traction to prevent slipping. Static Dissipative (SD) rated footwear is also recommended.
Respiratory Protection:	Appropriate NIOSH approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4, or self-contained breathing apparatus should be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators or IDLH levels.
Hygiene measures:	Use effective control measures and PPE to maintain worker exposure to concentrations that are below these limits. Ensure that eyewash stations and safety showers are in close proximity to work locations.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Colour:	Colourless
Odour:	Sweet, Solvent odour
Odour Threshold:	34 - 119 ppm (detection)
Melting point/freezing point:	5.5 °C (41.9 °F) (Freezing Point)
Initial boiling point and boiling range:	80 °C (176 °F)
Flammability:	not applicable
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	7.8 %(V)
Flammability limit - lower(%):	1.2 %(V)
Flash Point:	-11 °C (12 °F)
Auto-ignition temperature:	498 °C (928 °F)
Decomposition temperature:	No data available.
pH:	not applicable
Kinematic viscosity:	0.47 - 0.66 mm ² /s (40 °C (104 °F)), (estimated)
Solubility(ies)	
Solubility in water:	Slightly soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	2.13
Vapour pressure:	75 mm HG (20 °C (68 °F))
Evaporation rate:	No data available.
Density:	880 kg/m ³
Relative density:	0.88 (15 °C (59 °F)) (Water=1)
Vapour density:	2.8 (0 °C (32 °F)) (Air=1)
Particle characteristics	
Particle Size:	No data available.
Other information	

Explosive properties: No data available.

10. Stability and reactivity

Reactivity:	Reactive with oxidizing agents, acids and halogens. May attack and degrade some types of plastics, rubbers and coatings.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Exposure to open flame or excessive heat can cause fire or explosion. Keep away from heat, sparks and open flame.
Incompatible Materials:	Oxidizing agents, acids and halogens.
Hazardous Decomposition Products:	Upon decomposition, this product emits carbon monoxide, carbon dioxide, low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Excessive inhalation of this product may result in heartbeat irregularities and central nervous system effects including headache, dizziness, drowsiness, and unconsciousness. Excessive inhalation of this material may also cause damage to blood systems and possibly cancer (leukemia). Minute amounts aspirated into the lungs during ingestion or vomiting may cause severe pulmonary injury.
Ingestion:	Minute amounts aspirated into the lungs during ingestion or vomiting may cause severe pulmonary injury. Ingestion of this product may result in vomiting, nausea, abdominal pain and central nervous system effects including headache, sleepiness, dizziness, nausea, loss of coordination, and in extreme conditions coma and possibly death. Ingestion may also cause blood disorders and possibly cancer (leukemia).
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	Heartbeat irregularities and central nervous system effects including headache, dizziness, drowsiness, and unconsciousness. Reduced white blood cell count.
Ingestion:	Vomiting, nausea, abdominal pain and central nervous system effects including headache. Reduced white blood cell count.
Skin Contact:	Skin irritation.
Eye contact:	Eye irritation.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)****Oral****Product:** Not classified for acute toxicity based on available data.**Dermal****Product:** Not classified for acute toxicity based on available data.**Inhalation****Product:** Not classified for acute toxicity based on available data.**Repeated dose toxicity****Product:** LOAEL (Rat, Oral): 25 mg/kg (Target Organ(s): Blood)
LOAEL (Rat, Inhalation - vapour): 0.958 mg/l (Target Organ(s): Blood)
LOAEL (Human, Inhalation - vapour): 0.0018 mg/l (Target Organ(s): Blood)**Skin Corrosion/Irritation****Product:** Causes skin irritation.**Serious Eye Damage/Eye Irritation****Product:** Causes serious eye irritation.**Respiratory or Skin Sensitization****Product:** No data available.**Carcinogenicity****Product:** May cause cancer.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

Benzene Overall evaluation: 1. Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Benzene Known To Be Human Carcinogen.

ACGIH Carcinogen List:

Benzene Group A1: Confirmed human carcinogen.

Germ Cell Mutagenicity**In vitro****Product:** May cause genetic defects.**In vivo****Product:** May cause genetic defects.**Reproductive toxicity****Product:** Not classified.**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Specific Target Organ Toxicity - Repeated Exposure****Product:** Blood - Causes damage to organs through prolonged or repeated exposure.**Aspiration Hazard****Product:** May be fatal if swallowed and enters airways.**Other effects:**

Prolonged exposure of an aging population of workers to benzene can cause myelodysplastic syndrome (MDS) (abnormal growth of red, white or platelet stem cells in the bone marrow).

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: LC 50 (Oncorhynchus mykiss, 96 h): 5.3 mg/l
Toxic to aquatic life.

Aquatic Invertebrates

Product: EC 50 (Water flea (Daphnia magna), 48 h): 10 mg/l Intoxication
Toxic to aquatic life.

Toxicity to aquatic plants

Product: No data available.

Chronic hazards to the aquatic environment:**Fish**

Product: NOEC (32 d): 0.8 mg/l
Harmful to aquatic life with long lasting effects.

Aquatic Invertebrates

Product: NOEC (Daphnia, 7 d): 3 mg/l
Harmful to aquatic life with long lasting effects.

Toxicity to aquatic plants

Product: No data available.

Persistence and Degradability**Biodegradation**

Product: 81 % (5 d) The product is readily biodegradable.

Benzene in air will photo-degrade with a calculated half-life of 13.4 days. This is accelerated in polluted atmospheres containing nitrogen or sulphur oxides. By-products include phenol, nitrophenols, nitrobenzene, formic acid and peroxyacetyl nitrate. Benzene will biodegrade in soils and ground waters (half-life 16 to 28 days) under aerobic conditions. Limited degradation occurs under anaerobic conditions.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential**Bioconcentration Factor (BCF)**

Product: Pimephales promelas, Bioconcentration Factor (BCF): 13 Aquatic sediment QSAR, Key study

Metabolites may partially bioaccumulate in fatty fish tissues liver and brain.

Partition Coefficient n-octanol / water (log Kow)

Product: 2.13

Mobility in Soil:

Estimated volatilization half-life of benzene for soil was 7.2 to 38.4 days (Jury, WA et al., 1984). Benzene that does not evaporate will be highly to very highly mobile in the soil and may leach down into the ground water.

Other Adverse Effects:

When released to soil or water, product will rapidly begin to volatilize.

Evaporation rates, with moderate wind speed, for benzene range from <0.1 g/m²/s at 20 °C (68 °F) to > 3g/m²/s at 30 °C (86 °F).

13. Disposal considerations

Disposal instructions:	Dispose of contents and container in accordance with local regulations. Waste generator is advised to carefully consider hazardous properties and control measures needed for other materials that may be found in the waste.
Contaminated Packaging:	Check local, federal and provincial environmental regulations prior to disposal.

14. Transport information

TDG

UN number or ID number:	UN 1114
UN Proper Shipping Name:	BENZENE
Class	3
Packing Group	II
Label(s)	3
Special precautions for user:	Reference Emergency Response Guidebook No. 130, latest revision.

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Chemical Identity
Benzene

Name on List:
Benzene

Export Control List (CEPA 1999, Schedule 3)
Not regulated

Greenhouse Gases
Not regulated

Precursor Control Regulations
Not regulated

Canada. Substances Subject to Significant New Activity (SNAc) Reporting Requirements
Not regulated

Inventory status

Canada DSL Inventory List:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

Issue Date: 03/11/2025

Revision Information: 03/11/2025: SDS Update – GHS classification change, section 12 updates, section 15 updates, phrase edits
07/18/2024: SDS Update – OEL updates and phrase edits
09/14/2023: SDS Update – phrase edits, section 15 updates
12/20/2019: SDS Update

Version #: 8.0

Abbreviations and acronyms: ACGIH = American Conference of Governmental Industrial Hygienists; BOD = Biochemical Oxygen Demand; CAS = Chemical Abstracts Service; CEPA = Canadian Environmental Protection Act; COD = Chemical Oxygen Demand; DSL = Domestic Substances List; EC50 = Effective Concentration 50%; EPA = Environmental Protection Agency; GHS = Globally Harmonized System for the Classification and Labelling of Chemicals; IARC = International Agency for Research on Cancer; IDLH = Immediately Dangerous to Life or Health; Kow = Octanol/water partition coefficient; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; LEL = Lower Explosive Limit; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OEL = Occupational Exposure Limit; OSHA = Occupational Safety and Health Administration; PNOC = Particulates Not Otherwise Classified; PPE = Personal Protective Equipment; REL = Recommended Exposure Limit; SCBA = Self Contained Breathing Apparatus; SDS = Safety Data Sheet; STEL = Short Term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Further Information: For additional information on equipment bonding and grounding, refer to the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity".

For additional information on storing and handling flammable liquids, refer to the National Fire Protection Association (NFPA) 30, "Flammable and Combustible Liquids Code".

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