



TGV SRAAC LIMITED

GONDIPARLA, KURNOOL - 518004

TGV SRAAC/MSDS/08
Rev. /Date: 01/03.07.2025



MSDS – CHLORINE GAS

1. Company Identification:

M/s TGV SRAAC LIMITED,
(Formerly Sree Rayalaseema Alkalies & Allied Chemicals Ltd.),
Gondiparla, Kurnool.
Phone : 08518 280006, 7, 8
Toll Free No. : 1800111735

2. Product Identification:

GHS product identifier : Chlorine
Chemical name : Chlorine
Other means of identification: Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine
Product type : GAS
Product use: Synthetic/Analytical chemistry.
Synonym: Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine.

3. Hazards Identification:

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture:

OXIDIZING GASES - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (inhalation) - Category 2
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
AQUATIC HAZARD (ACUTE) - Category 1

GHS label elements Hazard pictograms



Signal word : Danger

Hazard statements: May cause or intensify fire; oxidizer.
Contains gas under pressure; may explode if heated.
Causes severe skin burns and eye damage.

Fatal if inhaled.

Very toxic to adequate life.

Precautionary statements General:

Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use.
Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Open valve slowly. Use only with equipment cleaned for oxygen service.

Prevention: Wear protective gloves. Wear protective clothing. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Keep away from clothing and other combustible materials. Keep reduction valves, valves and fittings free from oil and grease. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe gas.

Response: Collect spillage. In case of fire: Stop leak if safe to do so. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water. 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. Protect from sunlight. Store in a well-ventilated place.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified: None known.

Composition/information on ingredients:

Substance/mixture : Substance
Chemical name : chlorine

Other means of identification:

Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine.

Product code : 001015

CAS number/other identifiers

CAS number : 7782-50-5 Any concentration shown as

a range is to protect

confidentiality or is due to batch variation.

Ingredient name	%	CAS number
chlorine	100	7782-50-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. First Aid Measures:

Description of necessary first aid measures:

Eye contact:

Get medical attention immediately. Call a poison center or physician.

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Check for and remove any contact lenses.

Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Get medical attention immediately.

Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: Get medical attention immediately.

Call a poison center or physician. Flush contaminated skin with plenty of water.

Remove contaminated clothing and shoes.

Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Wash clothing before reuse.

Clean shoes thoroughly before reuse.

Ingestion: As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and Delayed: Potential acute health effects:

Eye contact: Causes serious eye damage. Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : Fatal if inhaled.

Skin contact : Causes severe burns. Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following: pain, watering, redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.

Ingestion: Adverse symptoms may include the following: stomach pains.

Indication of immediate medical attention and special treatment needed, if necessary:

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person



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providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5. Fire Fighting Measures :

Extinguishing media:

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical:

Contains gas under pressure. Oxidizing material.

This material increases the risk of fire and may aid combustion.

Contact with combustible material may cause fire.

In a fire or if heated, a pressure increase will occur and the container may burst or explode.

This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged

to any waterway, sewer or drain.

Hazardous thermal decomposition products:

Decomposition products may include the following materials: halogenated compounds.

Special protective actions for fire-fighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk.

Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental Release Measures:

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment.

Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. . Collect spillage.

Methods and materials for containment and cleaning up:

Small spill: Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill: Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and Storage :

Precautions for safe handling:

Protective measures: Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing.

Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container.

Use equipment rated for cylinder Avoid release to the environment. Empty containers retain product residue and can be hazardous. Keep away from

clothing, incompatible materials and combustible materials. Do not breathe gas. Keep reduction valves free from grease and oil.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, : including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area.

Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10).

Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over.

Cylinder temperatures should not exceed 52 °C (125 °F). Store locked up. Separate from reducing agents and combustible materials. Store away from grease and oil.

Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

8. Exposure Controls / Personnel Protection:

Appropriate engineering controls:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures:

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection:

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection:

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator



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Control parameters Occupational exposure limits:

Ingredient Name	Exposure limits
CHLORINE	ACGIH TLV (United States, 3/2019). STEL: 2.9 mg/m ³ 15 minutes. STEL: 0.4 ppm 15 minutes. TWA: 1.5 mg/m ³ 8 hours. TWA: 0.1 ppm 8 hours. NIOSH REL (United States, 10/2016). CEIL: 1.45 mg/m ³ 15 minutes. CEIL: 0.5 ppm 15 minutes. OSHA PEL (United States, 5/2018). CEIL: 3 mg/m ³ CEIL: 1 ppm OSHA PEL 1989 (United States, 3/1989). STEL: 3 mg/m ³ 15 minutes. STEL: 1 ppm 15 minutes. TWA: 1.5 mg/m ³ 8 hours. TWA: 0.5 ppm 8 hours. California PEL for Chemical Contaminants (Table AC-1) (United States). PEL: 0.5 ppm 8 hours. STEL: 1 ppm 15 minutes.

9.Physical and chemical properties:

Appearance:

Physical state: Gas. [GREENISH-YELLOW GAS WITH SUFFOCATING ODOR]

Color: Colorless. Green. Yellow.

Odor: Pungent.

Odor threshold: Not available

pH : Not available

Melting point: -101°C (-149.8°F)

Boiling point: -34°C (-29.2°F)

Critical temperature : 143.85°C (290.9°F)

Flashpoint: [Product does not sustain combustion.]

Evaporation rate: Not available.

Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: reducing materials, combustible materials, organic materials and alkalis.

Lower and upper explosive (flammable) limits : Not available. Vapor pressure : 85.3 (psig)

Vapor density: 2.5 (Air = 1)

Specific Volume (ft 3/lb) : 5.4054

Gas Density (lb/ft 3) : 0.185

Relative density : Not applicable.

Solubility: Very slightly soluble in the following materials: cold water.

Solubility in water: 7.41 g/l

Partition coefficient: n- octanol/water: Not available. Auto-ignition temperature : Not available. Decomposition temperature :Not available. Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

Molecular weight : 70.9 g/mole

10. Stability and reactivity:

Reactivity: No specific test data related to reactivity available for this product or its ingredients. Chemical stability: The product is stable. Possibility of hazardous reactions: Hazardous reactions or instability may occur under certain conditions of storage or use.

Conditions may include the following: contact with combustible materials Reactions may include the following: risk of causing fire. Conditions to avoid: No specific data. Incompatible materials: Highly reactive or incompatible with the following materials: combustible materials, reducing materials, grease, oil. Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous polymerization: Under

normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological Information:

Information on toxicological effects:

Acute toxicity :

Product/ingredient name	Result	Species	Dose	Exposure
chlorine	LC50 Inhalation Gas.	Rat	293 ppm	1 hours

Irritation/Corrosion: Not available.

Sensitization: Not available.

Mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive toxicity: Not available.

Teratogenicity: Not available.

Specific target organ toxicity (single exposure): Not available. Specific target organ toxicity (repeated exposure):

Not available. Aspiration hazard: Not available.

Information on the likely routes of exposure: Not available. Potential acute health effects:

Eye contact: Causes serious eye damage. Contact with rapidly expanding gas may cause burns or frostbite. Inhalation: Fatal if inhaled.

Skin contact : Causes severe burns. Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:, pain, watering, redness

Inhalation: No specific data.

Skin contact: : Adverse symptoms may include the following:, pain or irritation, redness, blistering may occur. Ingestion: Adverse

symptoms may include the following:, stomach pains.Delayed and immediate effects and also chronic effects from short and long term exposure: Short term exposure: Potential immediate effects: Not available.

Long term exposure:

Potential immediate effects: Not available.

Potential delayed effects : Not available.

Potential chronic health effects: Not available.

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity Acute toxicity estimates.

Route	ATE value
Inhalation (gases)	146.5 ppm

12. Ecological Information :

Toxicity

Persistence and degradability: Not available.

Bio accumulative potential: Not available.

Mobility in soil Soil/water partition coefficient (KOC): Not available.

Other adverse effects: No known significant effects or critical hazards.



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Product/ ingredie nt name	Result	Species	Exposu re	13. Disposal Consideration: Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container. 14. Transport Information: Additional information DOT Classification: Toxic - Inhalation hazard Zone B This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. Reportable quantity 10 lbs / 4.54 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. Limited quantity Yes. Quantity limitation Passenger aircraft/rail: Forbidden. Cargo aircraft: Forbidden.	Special provisions 2, B9, B14, T50, TP19 TDG Classification Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.23-2.25 (Class 5), 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail. Explosive Limit and Limited Quantity Index 0. ERAP Index 500. Passenger Carrying Vessel Index Forbidden Passenger Carrying Road or Rail Index Forbidden IMDG: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. IATA: The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: Forbidden. Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. Transport in bulk according to IMO instruments: Not available.						
Chlorine	Acute EC50 5.1 ppm Marine water	Algae - Macrocytis pyrifera – Young	4 days			UN number	DOT	TDG	Mexico	IMDG	IATA
	Acute EC50 930000 µg/l Fresh water	Aquatic plants - Lemna minor	4 days			UN prop er shipp ing name	UN1017	UN1017	UN1017	UN1017	UN1017
	Acute LC50 2.03 µg/l Fresh water	Crustacea ns - Asellus racovitza	2 days			Transp ort hazard class(e s)	CHLORINE	CHLORINE	CHLORINE	CHLORINE	CHLORINE
	Acute LC50 30 µg/l Fresh water	Daphnia - Daphnia pulex Fish –	48 hours			Packing group	2.3 (5.1, 8) 	2.3 (5.1, 8) 	2.3 (5.1, 8) 	2.3 (8) 	2.3 (8) 
Acute LC50 14 µg/l Fresh water	Oncorhyn chus mykiss	96 hours	Environ mental	-	-	-	-	-	-		
				hazards	Yes.	Yes.	Yes. The	Yes.	Yes. The		
							environme ntally hazardous		environme ntally hazardous		
							substance mark is		substance mark is		
							not required.		not required.		

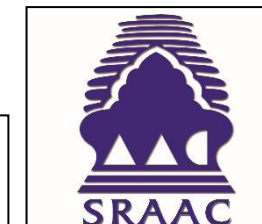
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15. Regulatory Information:

U.S. Federal regulations: TSCA 8(a) CDR
Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: chlorine.
Clean Air Act (CAA) 112 regulated toxic substances: chlorine.

Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs): Listed.

Clean Air Act Section 602 Class I Substances: Not Listed.

Clean Air Act Section 602 Class II Substances: Not Listed.

DEA List I Chemicals (Precursor Chemicals): Not Listed

DEA List II Chemicals (Essential Chemicals): Not Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gall ons)	(lbs)	(gall ons)
chlorine	100	Yes.	100	-	10	-

SARA 304 RQ : 10 lbs / 4.5 kg

SARA 311/312

Classification: Refer to Section 2: Hazards
Identification of this SDS for classification of substance.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	chlorine	7782-50-5	100
Supplier notification	chlorine	7782-50-5	100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : This material is listed.

New York : This material is listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals: Not listed.

Montreal Protocol: Not listed.

Stockholm Convention on Persistent Organic Pollutants: Not listed.

Rotterdam Convention on Prior Informed Consent (PIC): Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed.

Inventory list

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China: This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : Japan inventory (ENCS): Not determined.

Japan inventory (ISHL): Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Thailand : Not determined.

Turkey : This material is listed or exempted.

United States : This material is active or exempted.

Viet Nam : This material is listed or exempted.

Local Regulatory bodies:

APPCB, Kurnool.

Dy.Chief Inspector of Factories, Kurnool.

16. Other Information:

Information containing in this MSDS is believe to be reliable. But no guarantee is made as to its accuracy, suitability for a particular application or results to be obtained from them.

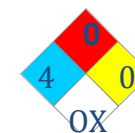
Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		0
Physical hazards		3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Health

Flammability

Instability/Reactivity

Special

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification:

Classification	Justification
OXIDIZING GASES - Category 1	Expert judgment
GASES UNDER PRESSURE - Compressed gas	According to package
ACUTE TOXICITY (inhalation) - Category 2	On basis of test data
SKIN CORROSION - Category 1	Expert judgment
SERIOUS EYE DAMAGE - Category 1	Expert judgment
AQUATIC HAZARD (ACUTE) - Category 1	Expert judgment

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

Contact Person:

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