SAFETY DATA SHEETS

This SDS packet was issued with item:

076650915

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

076650907

Safety Data Sheet

Safety Data Sheet (in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010)

Date Issued: 22 June 2009
Document Number: 20390MS
Date Revised: 24 September 2015
Revision Number: 6

1. PRODUCT IDENTIFICATION

Trade Name (as labeled):	**Chloroform**
Chemical Name/Classification:	Chloroform
Product Identifier (Part/Item Number):	20390
U.N. Number:	UN1888
U.N. Dangerous Goods Classification:	Class 6.1, PG III
Recommended Use:	Cleaning Cements from Tools and Equipment
Restrictions on Use:	For Professional Use Only
Manufacturer/Supplier Name:	Sultan Healthcare
Manufacturer/Supplier Address:	1301 Smile Way York, PA 17404
Manufacturer/Supplier Telephone Number:	800-989-8826 or 717-767-8502 (Product Information)
Transportation Emergency Contact Number:	800-424-9300 (Chemtrec)
Email address:	ProfessionalMSDS@dentsply.com

2. HAZARD(s) IDENTIFICATION

Hazard/Danger Classification (Regulation EC) No. 1272/2008 [CLP]:

Health	Environmental	Physical
Carcinogenicity Category 2 Acute Toxicity Category 4 (oral) Skin Irritation Category 2 Specific Target Organ Toxicity –Repeat Exposure Category 2	None	None

EU Classification (67/548/EEC as amended): Harmful (Xn) Irritant (Xi) Carcinogen Category 3

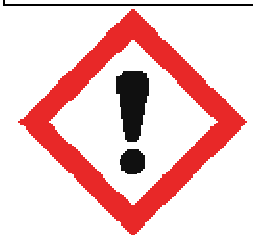
EU Risk (R) and Safety (S) Phrases: R22, R38, R40, R48/20/22, S2, S36/37

Refer to Section 16 for the full text of the EU Classifications and R Phrases.

Labeling Elements:

Signal Word: Warning

Hazard Statements	Precautionary Statements
H302 Harmful if swallowed. H315 Causes skin irritation. H351 Suspected of causing cancer. H373 May cause damage to liver and kidneys through prolonged or repeated exposure.	P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe vapours. P264 Wash exposed skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P308 + P313 IF exposed or concerned: Get medical advice/attention. P301+ P312 IF SWALLOWED: Call a POISON Center or doctor if you feel unwell. P330 Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P332 + P313 If skin irritation occurs: Get medical advice. P362 Take off contaminated clothing and wash before reuse. P405 Store locked up. P501 Dispose of contents/container in accordance with local and national regulations.



Contains Chloroform

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Components	C.A.S. # / EC#	IUPAC Name	WT %
Chloroform	67-66-3 / 200-663-8	Trichloromethane	100%

Refer to Section 16 for the full text of the GHS and H phrases and EU Classifications and R Phrases.

4. FIRST-AID MEASURES

Routes of Exposure	First Aid Instructions
Eye	Immediately flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.
Skin	Wash exposed area thoroughly with large quantities of water for at least 15 minutes. Remove and launder clothing before re-use. Get medical attention if irritation persists.
Inhalation	Remove to fresh air. If irritation or other symptoms persist, seek medical attention. If breathing has stopped, administer artificial respiration. Get immediate medical attention**.**
Ingestion	Do not induce vomiting. If conscious and alert, have victim rinse mouth with water. Never give anything my mouth to an unconscious or drowsy person. Get immediate medical attention.

Most important symptoms of exposure	Dizziness, vertigo, headache, tiredness, nausea, vomiting. Prolonged exposure may cause unconsciousness or death. Ingestion will cause severe burning of mouth and throat, pain in chest and abdomen and vomiting.
Other	Drinking alcohol or taking phenobarbital can increase toxic effects.
Note to Physicians (Treatment, Testing, and Monitoring): Treatment of overexposure should be directed at the control of symptoms and clinical conditions.	

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Use media appropriate for surrounding fire.
Fire Fighting Procedures:	Cool fire exposed containers and structures with water. Approach fire from upwind to avoid hazardous vapors, and toxic decomposition products.
Specific Hazards Arising from the Chemical:	Not flammable, however, thermal decomposition products are toxic and corrosive and include hydrogen chloride, phosgene, and chlorine.
Precautions for Fire Fighters:	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

Recommended Protective Equipment for Fire Fighters:

EYES/FACE	SKIN	RESPRIATORY	THERMAL
			

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, PPE and Emergency Procedures: Evacuate unprotected people and ventilate the area. If spill occurs indoors, turn off air conditioning and/or heat systems to prevent vapors from contaminating entire building. Wear appropriate protective clothing as described in Section 8.
Environmental Precautions: Prevent spill from entering sewers and water courses. Report releases as required by local and federal authorities.
Methods and Materials for Containment and Clean-up: Clean up material by absorbing with an inert absorbent material. Place in closed containers for appropriate disposal.

Recommended Personal Protective Equipment for Containment and Clean-up:

EYES/FACE	SKIN	RESPRIATORY	THERMAL
			

7. HANDLING AND STORAGE

Precautions for Safe Handing: Avoid breathing vapors. Avoid contact with the eyes, skin and clothing. Any clothing or shoes contaminated should be removed immediately, and thoroughly laundered before reuse. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers tightly closed when not in use.

Conditions for Safe Storage: Keep containers tightly closed when not in use. Store in a dry area. Keep water and moist air from entering containers. Protect from physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

United States	10 ppm TWA ACGIH TLV; 50 ppm Ceiling OSHA PEL
Germany	0.5 ppm TWA skin DFG MAK
United Kingdom	2 ppm TWA skin UK OEL
France	2 ppm INRS VME, 50 ppm VLCT skin
Spain	2 ppm TWA VLA-ED skin
Italy	2 ppm TWA skin
European Union	2 ppm TWA skin EU IOEL

Biological Exposure Limits: None Established

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Do not use in closed or confined areas.

Individual Protection Measures (PPE)

Specific Eye/face Protection: Chemical goggles recommended.

Specific Skin Protection: Wear impervious gloves. Wear impervious protective clothing if needed to avoid skin contact and contamination of personal clothing. Recommended glove: Polyvinyl alcohol or viton. Consult glove supplier for thickness and breakthrough times.

Specific Respiratory Protection: In operations where vapor concentrations exceed the exposure limits an approved respirator should be worn. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

Specific Thermal Hazards: Not applicable

Recommended Personal Protective Equipment:			
EYES/FACE	SKIN	RESPRIATORY	THERMAL
			

Environmental Exposure Controls: None required for normal use.
General Hygiene Considerations and Work Practices: Wash thoroughly with soap and water after handling. Any clothing or shoes contaminated should be removed immediately and thoroughly laundered before reuse.
Protective Measures During Repair and Maintenance of Contaminated Equipment: Not applicable for product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear colorless liquid	**Explosive Limits:**	Not applicable
Odor:	Mildly sweet	**Vapor Pressure:**	(mm Hg @ 20 C) 167
Odor Threshold:	205-307 ppm	**Vapor Density:**	(Air = 1) 4.12
pH:	Not applicable	**Relative Density:**	(H_20 = 1): 1.48 @ 25°C
Melting/Freezing Point:	-63.41°C	**Solubility:**	1.8 g/100 g water @ 25°C
Initial Boiling Point and Range:	59.4°C	**Partition Coefficient: n-octanol/water:**	1.97
Flash Point:	Not flammable	**Auto-Ignition Temperature:**	Not applicable
Evaporation Rate:	(Ether = 1):0.56	**Decomposition Temperature:**	Not determined
Flammability:	Not flammable	**Viscosity:**	Not determined
Explosive Properties:	None	**Oxidizing Properties:**	None

10. STABILITY AND REACTIVITY

Reactivity: Will not polymerize.
Chemical Stability: Stable.
Possibility of Hazardous Reactions: Reacts with strong oxidizers forming phosgene and chlorine gas. Reacts explosively in contact with powdered metals.
Conditions to Avoid: Avoid contact with open flame, electric arcs, or other hot surfaces which can cause thermal decomposition.

Incompatible materials: Strong alkalies, oxidizers, alkali metals, metallic powder, acetone, aluminum, and magnesium.

Hazardous Decomposition Products: Produces hydrogen chloride, phosgene, and chlorine when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Liquid in the eyes can cause loss of cornea epithelium. Regeneration of cornea cells is prompt and returns to normal in 1 to 3 days. Vapors can cause pain and irritation.

Skin: Prolonged or repeated skin contact can cause irritation, defatting of skin, and dermatitis. Absorption of liquid through intact skin is possible and may cause systemic poisoning if contact with skin is prolonged.

Ingestion: Ingestion is followed by severe burning of mouth and throat, pain in chest and abdomen, and vomiting. Depending on the amount swallowed, loss of consciousness, liver injury, and death can occur. If vomiting occurs, chloroform can be aspirated into the lungs which can cause chemical pneumonia and systemic effects.

Inhalation: Inhalation may cause depression of the central nervous system with dizziness, vertigo, headache, tiredness, nausea. Prolonged exposure may cause unconsciousness or death.

Chronic Health Effects: Prolonged or repeated skin contact can cause irritation, defatting of skin, and dermatitis. Chronic overexposure to chloroform has caused liver and kidney toxicity in experimental animals.

Carcinogenicity: Chloroform is classified by IARC as a 2B animal carcinogen. NTP has classified chloroform as reasonably anticipated to be a carcinogen. Chloroform has been found to cause liver tumors in male and female mice and liver and kidney tumors in rats.

Mutagenicity: Largely negative results have been obtained in Salmonella typhimurium and Escherichia coli (with and without activation), in gene mutation tests in CHO cells and human lymphocytes, in mouse micronucleus tests, and in tests of unscheduled DNA synthesis both in-vitro and in-vivo. Given the large number of sensitive assays that have been used to investigate the genotoxicity of chloroform, the committee considered it noteworthy that the positive responses were so few, and that the positive results were randomly distributed among the various assays. Taken together, WHO concluded that the weight of evidence indicates that neither chloroform nor its metabolites appear to interact directly with DNA or possess genotoxic activity.

Medical Conditions Aggravated by Exposure: Alcohol may enhance the toxic effects. History of alcoholism, kidney disorders, liver disorders, or nervous system disorders.

Acute Toxicity Data: Oral rat LD50 908-2,180 mg/kg; Inhalation rat LC50 47.702 mg/L/4 hr

Reproductive Toxicity Data: Embryotoxic and fetal toxic, and has delayed fetal development in experimental animals. Studies in mice and rats have shown a marginal teratogenic (birth defects) effect. Studies in rabbits have not shown teratogenic effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Acute chloroform exposure may result in death by respiratory arrest. Primary toxic response at lower levels of exposure is hepatotoxicity leading to fatty liver and centrilobular necrosis.

Repeated Exposure: Chronic overexposure to chloroform has caused liver and kidney toxicity in experimental animals.

12. ECOLOGICAL INFORMATION

Toxicity:

LC50; Species: Daphnia magna (Water flea): 29,000µg/L for 48 hrs.

LC50; Species: Lepomis macrochirus: 13,300µg/L for 96 hrs.

Persistence and Degradability: Chloroform in water and soil is expected to evaporate rapidly to the atmosphere due to its high vapor pressure. Biodegradation can occur when proper microbial populations exist. Chloroform in the atmosphere will degrade by reaction with hydroxyl radicals with a half-life of 80 days.

Bio-accumulative Potential: This material is not expected to bioacumulate.

Mobility in Soil: Poorly absorbed in soil. Can leach into ground water.

Other Adverse Effects: None known

Results of PBT/vPvB Assessment: Not required

13. DISPOSAL CONSIDERATIONS

Regulations: Dispose in accordance with local and national environmental regulations.

Properties (Physical/Chemical) Affecting Disposal: Thermal degradation will generate chlorine and chlorine compounds.

Waste Treatment Recommendations: None needed for normal anticipated use.

14. TRANSPORT INFORMATION

UN Number:	ADR/RID: UN1888	IMDG: UN1888	IATA: UN1888	DOT: UN1888
UN proper shipping name:	ADR/RID: Chloroform IMDG: Chloroform IATA: Chloroform DOT: Chloroform			
Transport hazard class(es):	ADR/RID: 6.1	IMDG: 6.1	IATA: 6.1	DOT: 6.1
Packaging group:	ADR/RID: PG III	IMDG: PG III	IATA: PG III	DOT: PG III
Environmental hazards:	ADR/RID: No	IMDG Marine pollutant: No	IATA: No	DOT: No

Special precautions for user: Not applicable

Note: In the United States packages with inner packagings with 4 L or less may be re-classed and shipped as Consumer Commodity, ORM-D. Packages containing 10 lbs or more are subject to RQ provisions.

15. REGULATORY INFORMATION

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): This product has an RQ of 10 lbs. Many other states have more stringent regulations. Report all spills in accordance with local, state, and federal regulations.

Toxic Substances Control Act (TSCA): All of the ingredients in this product are listed on the EPA TSCA Inventory.

OSHA Hazard Classification: Irritant, Carcinogen, Target Organ Effects.

Clean Water Act (CWA): Chloroform is regulated.

Clean Air Act (CAA): Chloroform is regulated.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 (40 CFR 370) Hazard Categories:

Immediate Hazard:	**Yes**	**Pressure Hazard:**	**No**
Delayed Hazard:	**Yes**	**Reactivity Hazard:**	**No**
Fire Hazard:	**No**		

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):

Components	C.A.S. #	WT %
Chloroform	67-66-3	100%

State Regulations

California: This product contains the following chemicals(s) known to the State of California to cause cancer, birth defects or reproductive harm:

Components	C.A.S. #	WT %
Chloroform	67-66-3	100

International Regulations

Canadian Environmental Protection Act: All the components of this product are listed on the Canadian DSL.

Canadian Workplace Hazardous Materials Information System (WHMIS): Class D-1-B, Class D-2-A

REACH: The substances in this product comply with the EU REACH regulation as applicable.\

16. OTHER INFORMATION

Full text of Classification abbreviations used in Sections 2 and 3:

Xn Harmful.
Xi Irritant.
R22 Harmful if swallowed.
R38 Irritating to skin.
R40 Limited evidence of a carcinogenic effect.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
S2 Keep out of the reach of children.
S36/37 Wear suitable protective clothing and gloves.

Revision Summary: Revision 6 – Periodic review. Only changes were to update address and contact information in Section 1.

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, IUCLID Dataset EU Chemical Bureau, ESIS, Country websites for occupational exposure limits.