# SAFETY DATA SHEET

## JAMES HARDIE FIBRE CEMENT PRODUCTS

Infosafe No.: LQA8L
Version No.: 1.0
ISSUED Date : 18/06/2020
ISSUED by: James Hardie Australia Pty Limited

## 1. IDENTIFICATION

**GHS Product Identifier**
JAMES HARDIE FIBRE CEMENT PRODUCTS

**Company Name**
James Hardie Australia Pty Limited

**Address**
10 Colquhoun Street Rosehill
NSW 2142 Australia

**Telephone/Fax Number**
Telephone: 13 11 03

**Emergency phone number**
1800 638 556

**Recommended use of the chemical and restrictions on use**
Fibre cement products are used in internal lining, external cladding, soffits and eaves lining, internal/external flooring, decking and fencing applications as per the relevant installation guides.

**Other Names**

| Name | Product Code |
|---|---|
| HardieDeck™ System | |
| Scyon™ Stria™ cladding | |
| Scyon™ Matrix™ cladding | |
| Scyon™ Axon™ cladding | |
| Scyon™ Linea™ weatherboard cladding | |
| Scyon™ Axent trim | |
| Scyon™ Secura™ exterior flooring | |
| Scyon™ Secura™ interior flooring | |
| EasyLap™ panel | |
| Architectural™ Invibe™ Panels and Architectural™ Inraw™ Panels | |
| Artista™ column | |
| Ceramic Tile Underlay | |
| ComTex™ Façade Panel | |
| ExoTec™ Facade Panel | |
| HardieBrace™ Sheet | |
| HardieFlex™ Eaves Lining | |
| HardieFlex™ Sheet | |
| HardieGroove™ Lining | |
| HardiePanel™ Compressed Sheets | |
| HardiePlank™ Smooth Cladding | |
| HardiePlank™ Woodgrain Cladding | |
| HardiePlank™ Old Style Cladding | |
| HardiePlank™ Rusticated Cladding | |
| HardieScreen™ Lattice | |
| HardieTex™ Base Sheet | |
| PanelClad™ Stucco sheets | |
| PanelClad™ TextureLine sheets | |
| PineRidge™ Lining | |
| PrimeLine™ Heritage Cladding | |
| PrimeLine™ Chamfer Cladding | |
| PrimeLine™ Summit Cladding | |
| PrimeLine™ Newport Cladding | |
| Villaboard™ Lining | |
| Versilux™ Wall & Ceiling Lining | |
| Vinyl and Cork Underlay | |
| EasyTex™ panel | |
| ExoTec™ | |
| Vero™ façade panel | |
| RAB™ Board | |
| HardieFence™ sheets | |

## 2. HAZARD IDENTIFICATION

**IMPORTANT NOTE(S)**

The following classification applies to any respirable crystalline silica dust potentially released from James Hardie Fibre Cement products, e.g. during cutting, drilling, grinding or rebating in the course of installation of this product. The intact fibre cement products are not expected to result in any adverse toxic effects.

Other Classifications

The dust and fibres of this substance may be irritating to the skin and respiratory tract as a result of physical (mechanical) reaction (i.e. scratch). The irritation is not a result of a chemical reaction.

**GHS classification of the substance/mixture**

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Carcinogenicity category 1A

STOT Repeated Exposure: Category 1

**Signal Word (s)**

DANGER

**Hazard Statement (s)**

H350 May cause cancer by inhalation.

H372 Causes damage to organs (lungs and respiratory system) through prolonged or repeated exposure by inhalation.

**Pictogram (s)**

Health hazard

**Precautionary statement – Prevention**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P264 Wash contaminated skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P281 Use personal protective equipment as required.

**Precautionary statement – Response**

P308+P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

**Precautionary statement – Disposal**

P501 Dispose of contents/container to an approved waste disposal plant.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Information on Composition**

The exact ratio of components will vary between specific products. Trace quantities of impurities are also likely.

**Ingredients**

| Name | CAS | Proportion |
|---|---|---|
| Quartz [Silica Crystalline] | 14808-60-7 | 10-60 % |
| Calcium Silicate Hydrate | 1344-96-3 | 10-50 % |
| Cellulose | 9004-34-6 | <15 % |
| Calcium Silicate | 1344-95-2 | <10 % |
| Ingredients determined not to be hazardous | | Balance |

## 4. FIRST-AID MEASURES

**First Aid Measures**
General Information:
If medical advice is needed, have product label at hand. If you feel that you may have been harmed or irritated by this product, you should call 1800 638 556 (24 hr, 7 days a week emergency response service). If shortness of breath or other health concerns develop after exposure to dust from the product, seek medical attention.

**Inhalation**
IF INHALED: Dusts may cause irritation. If experiencing irritation, remove to fresh air. Drink water to clear throat. If shortness of breath or wheezing develops, seek medical attention. Call 1800 638 556 (24 hr, 7 days a week emergency response service) or doctor/physician if you feel unwell.

**Ingestion**
Due to the nature of the product, this route of exposure is not expected under normal conditions. Give a glass of water to drink. If a substantial quantity has been swallowed, call 1800 638 556 (24 hr, 7 days a week emergency response service).

**Skin**
IF ON SKIN: Wash with plenty of soap and water. Get medical advice if irritation occurs or persists.

**Eye contact**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation occurs: Get medical advice.

**First Aid Facilities**
Ready access to running water is recommended.
Eyewash and normal washroom facilities.

**Advice to Doctor**
Treat symptomatically.

**Other Information**
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.

**Hazards from Combustion Products**
Non-flammable material.

**Specific Hazards Arising From The Chemical**
This product is non-flammable.

**Decomposition Temperature**
Not available

**Precautions in connection with Fire**
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures**
This product is not considered flammable or ecotoxic.
If a significant spill of dust occurs:
Wear protective equipment to prevent skin, eye and respiratory exposure to dusts.
Clear area of any unprotected personnel.
Avoid creating dust. If appropriate, use a gentle water spray to wet dust to minimise further dust generation.

**Methods And Materials For Containment And Cleaning Up**
Clean-up method: If possible to wet the dust, wet and sweep up the solid. Dry sweeping should not be attempted. Vaccuming with an M or H class industrial vacuum is recommended. Do not wash material down stormwater drains.

**Spills & Disposal**
Collect recoverable material into labelled containers for recycling or salvage. This material may be suitable for approved landfill. Dispose of only in accordance with all regulations. See section 13.

**Personal Precautions**
Wear protective equipment to prevent eye contamination and the inhalation of dusts. Work up wind or increase ventilation.

**Other Information**
Fibre cement products in their intact state do not present a fire, health or environmental hazard. The mentioned precautions apply to spills and releases of dust generated during cutting, rebating, drilling, routing, sawing or abrading fibre cement.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**
Keep exposure to crystalline silica dust to a minimum, and minimise the quantities of dust in work areas.
During installation and use of this product: Wherever possible, practices likely to generate dust should be carried out in well-ventilated areas (e.g.outdoors).
Minimise dust creation by using the recommended tooling and cutting methods. (refer to the relevant installation guide and James Hardie Best Practice Guide for tips on the safe handling of these products).
Work area should be cleaned regularly by wet sweeping or vacuuming with an M or H class vacuum.
Keep away from incompatible substances (section 10).
Avoid inhalation of dust, and skin or eye contact. Prevent the build up of dust in the work atmosphere. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities.
Avoid exposure. Do not use until all safety precautions have been read and understood.

**Conditions for safe storage, including any incompatibilities**
Avoid contact with incompatible substances as listed in Section 10.
Store all James Hardie building products in a dry location. Avoid mechanical damage to the product, such as chipping of the edges and corners of the sheets. The product must be laid flat under cover on a smooth surface clear of the ground to avoid exposure to water or moisture.
Store in a cool, well-ventilated area, out of direct sunlight and moisture. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

**Corrosiveness**
Non corrosive

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure limit values**

| Substance | Regulations | Exposure Duration | Exposure Limit | Units | Notes |
|---|---|---|---|---|---|
| Quartz (respirable dust) | Safe Work Australia | TWA | 0.05 | mg/m3 | Carc. 1A |
| Calcium silicate | Safe Work Australia | TWA | 10 | mg/m3 | a) inspirable dust containing no asbestos and <1% crystalline silica. |
| Cellulose | Safe Work Australia | TWA | 10 | mg/m3 | |

**Biological Limit Values**
No biological limits allocated.

**Appropriate Engineering Controls**

The dust created when cutting, drilling, rebating or grinding fibre cement products using high speed tools is hazardous and should be carried out with a local exhaust ventilation system, drawing solid/dust away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of particulates below the exposure standards, suitable respiratory protection must be worn.

In workplace situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the Exposure Standard as practicable by applying the hierarchy of control required by the Work Health and Safety (WHS) Act and the WHS Regulations.

Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe airborne concentrations of dusts are high, you are advised to modify processes or increase ventilation.

Personal protection when handling products that may generate silica dust: 1) Refer to current James Hardie instruction and best practice guide to reduce or limit the release of dust. 2) Warn others in the area to avoid the dust. 3) When using mechanical saw or high speed cutting tools, work out doors and use a well maintained M or H class industrial vacuum and filter appropriate for capturing fine respirable dust. 4) Wear a correctly fitted, approved dust mask or respirator (see below). 5) Consider rotating personnel across the cutting task.

During clean-up, use a well-maintained M or H class vacuum and filter appropriate for capturing fine respirable dust or use wet clean-up methods, never dry sweep.

**Respiratory Protection**

Always use appropriate and correctly fitted respiratory protection equipment when using high speed tooling on fibre cement products. Ideally, select respirators based on the level of exposure to respirable crystalline silica as measured by exposure monitoring. Where high levels of dust are encountered but actual concentrations are unknown, use respirators that offer protection to the highest concentration of respirable crystalline silica, for example a positive pressure respirator with at least a P3 dust filter. Put in place a respiratory protection and monitoring program that complies with Safe work Australia Guide for Health Monitoring for exposure to hazardous chemicals.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstance.

**Eye Protection**

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

**Hand Protection**

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

**Footwear**

Wear safety footwear, i.e. steel capped boots. Final choice will vary according to individual circumstances.

**Body Protection**

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where high quantities of product are cut and/or dust produced.

**Other Information**

Specific Handling instructions:

Cutting Outdoors:

Position cutting station so that wind will blow dust away from user or others in working area and allow for ample dust dissipation.

Use one of the following methods based on the required cutting rate and job-site conditions:

BEST - Score and snap using carbide-tipped scoring knife or utility knife.

- Fibre-cement shears (electric or pneumatic).

BETTER - Dust reducing circular saw equipped with Hardieblade™ saw blade and M or H class vacuum. Always wear an approved dust mask or respirator and warn others in the immediate area.

Cutting Indoors:

Cut only using score and snap method or with fibre-cement shears (manual, electric or pneumatic).

Position cutting station in well-ventilated area to allow for dust dissipation.

Sanding / Rebating / Drilling / Other Machining:

If sanding, rebating, drilling or other machining is necessary, you should always connect tool to a M or H class vacuum and wear an

approved dust mask or respirator and warn others in the immediate area.

Clean-Up:
During clean-up of dust and debris, NEVER dry sweep or use compressed air as it may excite silica dust particles into the user's breathing area. Instead, wet debris down with a fine mist to suppress dust during sweeping, or use a M or H class vacuum to collect particles.

Important Notes:
For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best" level cutting methods where feasible.
NEVER use a power saw indoors.
NEVER use a circular saw blade that does not carry the Hardieblade™ saw blade trademark, or is of equal or better performance at reducing risk of dust exposure.
NEVER dry sweep – use wet suppression methods or M or H class vacuum.
NEVER use a grinder or continuous rim diamond blade for cutting.
ALWAYS follow tool manufacturer's safety recommendations.

ES Additional Information
No additional information

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form**
Solid

**Appearance**
Solid usually grey sheets or planks with various dimensions according to the product profiles

**Colour**
Grey

**Odour**
No odour

**Decomposition Temperature**
Not available

**Melting Point**
Not available

**Boiling Point**
Not available

**Solubility**
Not available

**Specific Gravity**
Not available

**pH**
Not available

**Vapour Pressure**
Not applicable

**Vapour Density (Air=1)**
Not available

**Evaporation Rate**
Not available

**Corrosiveness**
Non corrosive

**Odour Threshold**
Not available

**Viscosity**
Not available

**Volatile Component**
Not applicable

**Partition Coefficient: n-octanol/water**
Not available

**Flash Point**
Not flammable

**Auto-Ignition Temperature**
Not available

**Explosion Limit - Upper**
Not applicable

**Explosion Limit - Lower**
Not applicable

**Explosion Properties**
Not available

**Oxidising Properties**
Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**
Refer to Section 10: Possibility of hazardous reactions

**Chemical Stability**
Product is non reactive and stable under normal conditions of storage and handling.

**Conditions to Avoid**
Avoid the creation of dust during processing, handling and installation.

**Incompatible materials**
Strong oxidising agents, strong acids and ammonia salts.

**Hazardous Decomposition Products**
Thermal decomposition may result in the release of toxic and/or irritating fumes.

**Possibility of hazardous reactions**
Reacts with incompatible materials.

**Hazardous Polymerization**
Not available

## 11. TOXICOLOGICAL INFORMATION

**Toxicology Information**
Summary:
Fibre cement is non-toxic in its intact form. The following applies to respirable dust that may be generated during cutting, rebating, drilling, routing, sawing, crushing or otherwise abrading fibre cement.

**Acute Toxicity - Oral**
The estimated LD50 (oral, rat) for the mixture is >5,000 mg/kg. Calcium Silicate: 3400 mg/kg (rat).

**Acute Toxicity - Inhalation**
The substance is not considered acutely toxic if inhaled, however there may be irritation of the respiratory tract if dust is inhaled.

**Acute Toxicity - Dermal**
No evidence of dermal toxicity.

**Ingestion**
No adverse effects expected, however ingesting large amounts of this product may irritate the gastric tract causing nausea and vomiting.

**Inhalation**
Inhalation of dusts may irritate the respiratory system.
Chronic exposure to this material may aggravate existing respiratory disorders and lung disorders such as bronchitis, emphysema and asthma. Onset and progression are related to dust concentrations and duration of exposure.
Repeated exposure to respirable crystalline silica dust may lead to silicosis, or other serious delayed lung injury. The onset of silicosis is usually slow and lung damage may occur even when no symptoms or signs of ill-health have occurred. Silicosis can develop to a more serious degree even after exposure has ceased, and may also lead to other diseases including heart disease and scleroderma. Exposure by inhalation may aggravate pre-existing upper respiratory and lung disorders such as bronchitis, emphysaema and asthma.
Dusts may cause upper respiratory tract irritation, resulting in coughing and sneezing. Certain susceptible individuals may experience wheezing (spasms of the bronchial airways) upon inhaling dust during cutting, rebating, drilling, routing, sawing, crushing or otherwise abrading fibre cement, and when cleaning up, disposing of or moving the dust.

**Skin**
This product is not absorbed through the skin. Dust may dry out the skin. The mixture is not considered to be a skin irritant. May cause abrasive irritation in contact with the skin, which can result in redness, itching and possible dermatitis.

**Eye**
Eye contact may cause mechanical irritation. May result in mild abrasion.

**Respiratory sensitisation**
Not expected to be a respiratory sensitiser.

**Skin Sensitisation**
Not expected to be a skin sensitiser.

**Germ cell mutagenicity**
Not considered to be a mutagenic hazard.
No ingredient present at concentrations >0.1% is considered a mutagen.

**Carcinogenicity**
May cause cancer by inhalation. Respirable crystalline silica is classified by International Agency for Research on Cancer (IARC) as carcinogenic to humans by inhalation (Group 1) .
The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate. Carcinogenicity of silica appears linked to development of silicosis (see systemic below) followed by complications and, eventually lung cancer.

**Reproductive Toxicity**
Not considered to be toxic to reproduction.
No ingredient present at concentrations >0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.

**STOT-single exposure**
Not expected to cause toxicity to a specific target organ.

**STOT-repeated exposure**
Causes damage to organs (lungs and respiratory system) through prolonged or repeated exposure by inhalation.

**Aspiration Hazard**
Not expected to be an aspiration hazard.

**Other Information**
Systemic:
There may be some irritation of the respiratory tract. This product contains crystalline silica which if it is in the form of a fine respirable dust may cause silicosis in an occupational setting. Exposure to respirable crystalline silica may also affect the immune system and the kidneys.
Aggravation of existing conditions:
Medical conditions which may be aggravated: pre-existing upper respiratory and lung disease such as, but not limited to bronchitis, emphysema and asthma.
Some studies suggest that cigarette smoking increases the risk of silicosis, bronchitis and lung cancer in persons also exposed to crystalline silica.

## 12. ECOLOGICAL INFORMATION

**Ecological information**
Summary:
These products are not considered ecotoxic.

Supporting Data:
Aquatic: These products are not considered to be toxic in the aqueous environment.
Soil: These products are not considered to be toxic in the soil environment.
Biocidal: Not designed as a biocide.

**Persistence and degradability**
Not available

**Mobility**
Not available

**Bioaccumulative Potential**
Not available

**Other Adverse Effects**
Not available

**Environmental Protection**
Prevent this material entering waterways, drains and sewers.

## 13. DISPOSAL CONSIDERATIONS

**Disposal considerations**
Restrictions: There are no product-specific restrictions. However, state and local disposal regulations may apply. Note that state and local disposal regulations may differ from federal disposal regulations.

**Product Disposal**
Disposal of this product must comply with the requirements of state and local disposal regulations. If there are no applicable regulations, dispose of in a secure landfill, or in a way that will not expose others to dust.

**Container Disposal**
Contaminated packaging: not applicable.

## 14. TRANSPORT INFORMATION

**Transport Information**
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

**U.N. Number**
None Allocated

**UN proper shipping name**
None Allocated

**Transport hazard class(es)**
None Allocated

**Packing Group**
None Allocated

**UN Number (Air Transport, ICAO)**
None Allocated

**IATA/ICAO Proper Shipping Name**
Not dangerous for conveyance under IATA code

**IATA/ICAO Hazard Class**
None Allocated

**IATA/ICAO Packing Group**
None Allocated

**IMDG UN No**
None Allocated

**IMDG Proper Shipping Name**
Not dangerous for conveyance under IMO/IMDG code

**IMDG Hazard Class**
None Allocated

**IMDG Pack. Group**
None Allocated

**IMDG Marine pollutant**
No

**Transport in Bulk**
Not available

**Special Precautions for User**
Not available

## 15. REGULATORY INFORMATION

**Regulatory information**
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Poisons Schedule**
Not Scheduled

**Australia (AICS)**
Quartz:
High Volume Industrial Chemicals List (HVICL)
Hazardous Substance
International Programme on Chemical Safety (IPCS) – CICAD

Cristobalite:
High Volume Industrial Chemicals List (HVICL)
Hazardous Substance

Calcium silicate hydrate:
High Volume Industrial Chemicals List (HVICL)

Calcium carbonate:
High Volume Industrial Chemicals List (HVICL)

Cellulose: listed

## 16. OTHER INFORMATION

**Date of preparation or last revision of SDS**
SDS Created: June 2020

**References**
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
Standard for the Uniform Scheduling of Medicines and Poisons.
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Workplace exposure standards for airborne contaminants, Safe work Australia.
Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).
Globally Harmonised System of Classification and Labelling of Chemicals.
Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

**Other Information**
Abbreviations:
AICS - Australian Inventory of Chemical Substances
CAS Number - Unique Chemical Abstracts Service Registry Number
EC50 - Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ES - Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day.
GESTIS - Database on Hazardous substances, Information system on hazardous substances of the German Social Accident Insurance.

GHS - Globally Harmonised System of Classification and Labelling of Chemicals
HAZCHEM Code - Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSIS - Hazardous substance Information System, http://hsis.safeworkaustralia.gov.au/
IARC - International Agency for Research on Cancer
LEL - Lower Explosive Limit
LD50 - Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC50 - Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
NICNAS - National Industrial Chemicals Notification and Assessment Scheme
NZ EPA CCID - New Zealand Environmental Protection Agency. Chemical Classification Information Database.
Peak Limitation - Peak Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
STOT - Specific Target Organ Toxicity
TWA - Time Weighted Average – generally referred to ES averaged over typical work day (usually 8 hours)
UEL - Upper Explosive Limit
UN - Number United Nations Number

## END OF SDS