

SAFETY DATA SHEET

JAMES HARDIE FIBRE CEMENT PRODUCTS

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ISSUED by: James Hardie Australia Pty
Limited

Section 1 - Identification

Product Identifier

JAMES HARDIE FIBRE CEMENT PRODUCTS

Company Name

James Hardie Australia Pty Limited

Address

Level 17/60 Castlereagh St, Sydney
NSW 2000 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
Hardie™ Deck System
Stria™ Cladding
Matrix™ Cladding
Axon™ Cladding
Hardie™ Axent™ Trim
Secura™ Exterior Flooring
Secura™ Interior Flooring
EasyLap™ panel
Hardie™ Ceramic Tile Underlay
ExoTec Facade™ Panel
Hardie™ Flex Eaves Lining
Hardie™ Flex Sheet
Hardie™ Groove Lining
Hardie™ Panel Compressed Sheet
Primeline™ Weatherboard Heritage
Primeline™ Weatherboard Chamfer
Primeline™ Weatherboard Newport
Villaboard™ Lining
Versilux™ Lining
RAB™ Board
Hardie™ Fine Texture Cladding
Hardie™ Plank Weatherboard Smooth
Hardie™ Plank Weatherboard Woodgrain
Linea™ Weatherboard
Hardie™ Cavity Batten
Hardie™ ZeroLot™
Hardie™ Oblique Cladding

Section 2 - Hazard(s) Identification

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

Specific target organ toxicity (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 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/hearing protection.

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.

IMPORTANT NOTE(S)

This 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.

Section 3 - Composition and Information on Ingredients

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

Information on Composition

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

Section 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

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)

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes and gases.

Specific hazards arising from the chemical

This product is deemed non-combustible.

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.

Section 6 - Accidental Release Measures

Emergency Procedures

This product is deemed non-combustible. This product is not considered 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. Vacuuming 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.

Section 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

Section 8 - Exposure Controls and 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	
Calcium silicate	Safe Work Australia	TWA	10	mg/m3	(inhalable dust containing no asbestos and < 1% crystalline silica)
Calcium Silicate	Safe Work Australia	TWA	10	mg/m3	(inhalable dust containing no asbestos and < 1% crystalline silica)
Cellulose	Safe Work Australia	TWA	10	mg/m3	(inhalable dust containing no asbestos and < 1% crystalline silica)

Biological Monitoring

No biological limits allocated.

Control Banding

Not available

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 and Face 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.

Thermal Hazards

No further relevant information available.

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

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Solid	Appearance	Solid usually grey sheets or planks with various dimensions according to the product profiles
Colour	Grey	Odour	No odour
Melting Point	Not available	Boiling Point	Not available
Decomposition Temperature	Not available	Solubility	Not available
Specific Gravity	Not available	pH	Not available
Vapour Pressure	Not applicable	Relative Vapour Density (Air=1)	Not available
Evaporation Rate	Not available	Corrosiveness	Non corrosive
Odour Threshold	Not available	Viscosity	Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity
Volatile Component	Not applicable	Partition Coefficient: n-octanol/water (log value)	Not available
Flash Point	Not available	Flammability	Not flammable
Auto-Ignition Temperature	Not available	Explosion Limit - Upper	Not available
Explosion Limit - Lower	Not available	Explosion Properties	Not available
Oxidising Properties	Not available	Kinematic Viscosity	Not applicable
Dynamic Viscosity	Not applicable	Particle Characteristics	Not available

Section 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.

Possibility of hazardous reactions

Reacts with incompatible materials.

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.

Hazardous Polymerization

Not available

Section 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 > 5000 mg/kg. Calcium Silicate: 3400 mg/kg (rat).

Acute Toxicity - Dermal

No evidence of dermal toxicity.

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.

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. There is some evidence that exposure to respirable crystalline silica may be linked to an increased risk of kidney disease. Exposure by inhalation may aggravate pre-existing upper respiratory and lung disorders such as bronchitis, emphysema 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.

Section 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.

Hazardous to the Ozone Layer

This product is not expected to deplete the ozone layer.

Section 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.

To minimise personal exposure, refer to Section 8 - Exposure Controls and Personal Protection.

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 and Methods

Contaminated packaging: Not applicable.

Section 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.

ADG U.N. Number

None Allocated

ADG Proper Shipping Name

None Allocated

ADG Transport Hazard Class

None Allocated

ADG Packing Group

None Allocated

Special Precautions for User

Not available

IATA UN Number

None Allocated

IATA Proper Shipping Name

Not dangerous for conveyance under IATA code

IATA Transport Hazard Class

None Allocated

IATA Packing Group

None Allocated

IMDG UN Number

None Allocated

IMDG Proper Shipping Name

Not dangerous for conveyance under IMO/IMDG code

IMDG Transport Hazard Class

None Allocated

IMDG Packing Group

None Allocated

IMDG Marine pollutant

No

Transport in Bulk

Not available

Section 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

Montreal Protocol

Not Listed

Stockholm Convention

Not Listed

Rotterdam Convention

Not Listed

International Convention for the Prevention of Pollution from Ships (MARPOL)

Not available

Agricultural and Veterinary Chemicals Act 1994

Not applicable

Basel Convention

Not available

Section 16 - Any Other Relevant Information

Date of Preparation

SDS Reviewed: April 2022, Supersedes: June 2020

Literature 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.

Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Code of Practice for Supply Diversion into Illicit Drug Manufacture.

National Code of Practice for Chemicals of Security Concern.

Agricultural Compounds and Veterinary Chemicals Act.

International Agency for Research on Cancer (IARC) Monographs.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Stockholm Convention on Persistent Organic Pollutants (POPs).

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

International Air Transport Association (IATA) Dangerous Goods Regulations.

International Maritime Dangerous Goods (IMDG) Code.

Workplace exposure standards for airborne contaminants.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition).

Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

Contact Person/Point

IMPORTANT ADVICE: Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, James Hardie, makes no representations as to the completeness or accuracy thereof. Information is supplied on the conditions that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will James Hardie or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.

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

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