

Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 1 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



May be used to comply with OSHA's Hazard Communication Standard.
29 CFR 1910, 1200. Standard must be consulted for specific requirements.
U.S DEPARTMENT OF LABOUR
Occupational Safety and Health Administration

1 - COMPANY – PRODUCT IDENTIFICATION

MANUFACTURER:

Head office & Production Plant: **Vivian Regina Marketing (Pty) Ltd**
An IMS group company
P.O. Box 853, Springs, 1560, R.S.A.
Gold Street, New Era, Springs, 1559 R.S.A.
Tel: +27 (0) 11 813 4147/8/9
Telefax: +27 (0) 11 813 3743
E-mail: sales@vivianregina.com
www.vivianregina.com

Product Identification: **GLASS FIBRE TISSUE**

Contact in an emergency: VIVIAN REGINA MARKETING (PTY) LTD

2 - COMPOSITION

Vivian Regina's glass-fiber tissues are produced with chemical resistant (C-Glass) continuous glass monofilaments.

The Vivian Regina products are typically sold in rolls or mats and the packaging specifies the general brand name i.e. FIBASIL, FIBAMAT, FIBAWRAP, FIBAROVE, CRAKGON followed by a product code number.

This Material Safety Data Sheet is valid for all Vivian Regina glass fibre products.

Glass fibers (basic products of the glass fiber tissues) can be considered as ARTICLES, as fibres are defined as such in the manual of decisions for implementation of the sixth and seventh amendments to directive 67/548/eec on dangerous substances (EU Directives 79/831/eec and 92/32/eec) or in the USA by the American TSCA (Toxic Substances Control Act) or EPA 40 CFR 710.2 and also some other national regulations (DSL in Canada, to name one).

These articles are also composites of tissues and scrims held together with a suitable binder.

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 **reg no** 1967/009108/07
email admin@vivianregina.com **web** www.vivianregina.com
tel +27 11 813 4147 **fax** +27 11 813 3743

An **IMS** Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 2 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



The composition of the chemically resistant glass used at Vivian Regina is as follows:
(Main chemical components expressed in approximate weight %)

SiO ₂	69.0	BaO	2.0
B ₂ O ₃	1.0	CaO	5.0
K ₂ O	3.0	MgO	3.0
Al ₂ O ₃	4.0	Na ₂ O	13.0

The binders used to bond the glass filaments together are generally water based acrylic or latex emulsions; and urea-formaldehyde resins or blends there of (in some specific products). They are polymerized by thermal treatment. Their content in the glass fiber tissue is between 2 and 30% by weight. When cross-linked for bonding the filaments together, they are high molecular weight polymers and as such are not listed as dangerous substances. Some of the monomers used for the production of these polymers may be listed in the dangerous products of the European Directive 67/548 and subsequent amendments, but remain only as traces in the end products.

3 - HAZARD IDENTIFICATION

Tissues made with chemically resistant continuous mono filament glass fibers using the dry process of manufacture are **NOT SIGNIFICANTLY HAZARDOUS**. Details about chemical hazards are given in paragraph 2. Toxicological aspects are developed in detail in Point 11. The essential points to remember are that glass filaments are not "respirable" as their nominal diameters are over 9 µm, (far over the diameter of 3 µm defined by the World Health Organization for "respirable" fibers) and that they have been shown not to cause lung cancer.

Hazards identified are:

- Mechanical irritation (itching)
- Dust particles which can be inhaled, i.e. able to be breathed in the upper respiratory tract – as differentiated from respirable products which can penetrate the far lung extremities.
- Allergies in rare instances.

4 - FIRST AID

INHALATION: Remove from the scene of exposure to fresh air

SKIN CONTACT: Wash copiously with lukewarm soapy water without excessive rubbing

EYE CONTACT: Flush in running water (for at least 10 minutes), and consult a doctor if necessary

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 reg no 1967/009108/07
email admin@vivianregina.com web www.vivianregina.com
tel +27 11 813 4147 fax +27 11 813 3743

An IMS Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 3 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



5 - FIRE FIGHTING

In the case of fire, glass fibers are not flammable, are incombustible and don't support combustion. Only the packaging (plastic film, paper, cardboard, wood) is likely to burn. Binders, in spite of their organic nature, do not burn readily but can support combustion. Combustion gases are basically carbon dioxide and water vapor. There may be small quantities of carbon monoxide and other unknown substances that make it necessary to use protective devices in the event of a major fire.

RECOMMENDED EXTINGUISHING MEDIA: Water or Chemical powder.

6 - ACCIDENTAL SPILLAGE

PERSONAL PROTECTION: See Point 8.

ENVIRONMENTAL PROTECTION: Glass fiber waste does not emit any significant quantities of dangerous products and they can therefore be considered **INERT INDUSTRIAL WASTE**, or even **COMMON INDUSTRIAL WASTE**, as defined by national and local regulations. All waste and scrap material should be disposed of in accordance with applicable national regulations (see Point 13).

CLEANING: Vacuum clean, sweep or shovel into containers normally used for glass fiber waste.

7 - HANDLING & STORAGE

HANDLING (Technical measures / Precautions / Safe handling advice): It is preferable to avoid prolonged contact with the skin. Wear gloves, garments with long sleeves and long leggings or protective overalls, goggles, and dust masks. Glass filaments and dusts must be removed from work garments with a vacuum cleaner and not blown off with compressed air jets. Wash work garments separately from other clothes.

STORAGE:

Technical measures: Respect the stacking procedure recommended for each type of product.

Storage conditions: Store away from excessive humidity to prevent damage to either the product and to the packing materials, which could lead to storage safety problems.

Incompatible material: Not relevant.

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 reg no 1967/009108/07
email admin@vivianregina.com web www.vivianregina.com
tel +27 11 813 4147 fax +27 11 813 3743

An IMS Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 4 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



8 - EXPOSURE CONTROL – PERSONAL PROTECTION

TECHNICAL MEASURES: Use every appropriate means (suction, modification of manufacturing methods to reduce fiber dust, etc....) to try to reduce the concentration of fibers likely to cause irritation.

TEST PARAMETRES: Test ambient atmospheres in which glass fiber is used regularly to determine levels of:

- “non respirable” and “respirable” filaments,
- “non respirable” and “respirable” dusts.

Legal requirements for respirable and non-respirable dusts and fibers vary from country to country (or do not even exist). It is recommended to identify the chemical nature of the fibers found in working atmospheres correctly: in particular insulation wools and mineral fibers like asbestos which are sometimes present and can be confused with continuous glass strands.

PERSONAL PROTECTION EQUIPMENT: Respiratory protection: During occasional operations releasing high quantities of dust, wear approved dust masks.

Protection of hands and other exposed parts of the body: Gloves for the hands, long sleeved garments and long leggings to prevent irritation. People with delicate skin should apply barrier cream to exposed skin areas.

Eye protection: Use approved safety goggles, masks or safety glasses as required.

9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

FORM: Glass tissue rolls or strips

COLOUR: White, yellowish white or yellow depending on the binders

ODOUR: None

Ph: not applicable

SPECIFIC TEMPERATURE AT WHICH CHANGES IN THE PHYSICAL STATE OCCUR:

SOFTENING POINT: Approximately 720°C.

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 **reg no** 1967/009108/07
email admin@vivianregina.com **web** www.vivianregina.com
tel +27 11 813 4147 **fax** +27 11 813 3743

An **IMS** Group Company

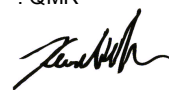
Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 5 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



WORKINGPOINT: 1040°C (fiberizing temperature)

DECOMPOSITION TEMPERATURE: Polymer binders start to decompose at 230°C to 250°C

FLASH POINT: None

EXPLOSIVE PROPERTIES: None

DENSITY (molten glass): Depending on glass strands and binder rates. 2.5g/cm³ and for the polymers of the binder 1.0 to 1.2g/cm³.

SOLUBILITY: Very low solubility in water. Binders can be partially (and even totally) dissolved in most organic solvents.

10 - STABILITY AND REACTIVITY

STABILITY: If the normal temperature range of use is high, the binders used for glass tissues can be slightly degraded by heat. Evolving gases may irritate the eyes, throat or nose. Toxic risks are low. To improve working conditions, and particularly if exposure to these gases is long, it is recommended to install smoke evacuation devices near the heating points or to wear masks.

HAZARDOUS REACTIONS: Glass tissues are stable and do not generate hazardous chemical reactions.

HAZARDOUS DECOMPOSITION PRODUCTS: In continuous combustion conditions, in addition to water vapor and CO₂, small quantities of carbon monoxide or other products may be released from the combustion of the binder. Other products may be released in limited quantities depending on combustion conditions. This is why it is recommended to use high-performance gas masks, when fighting intense fires (see Point 5).

11 – TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Not relevant

LOCALISED EFFECTS: Possible temporary irritations. This irritation is of a purely mechanical and temporary nature. It disappears when exposure is ended. It can affect the skin, eyes and respiratory tracts. In, Europe, mechanical irritation is not considered to be a health hazard within the Terms of European directives 67/548/EEC for hazardous products. This is confirmed by the fact that EC Directive 97/69/EC for mineral fibers does not stipulate the need to use a Xi (irritant) label nor a

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 reg no 1967/009108/07
email admin@vivianregina.com web www.vivianregina.com
tel +27 11 813 4147 fax +27 11 813 3743

An IMS Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 6 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



classification for continuous strand glass fibers (which in this Directive only applies to insulation glass wools in some circumstances).

SENSITIZATION: Some allergies to continuous strand glass fibers have been declared. In case of a confirmed allergy, remove the person from the scene of exposure.

LONG TERM TOXICITY: Carcinogenic Risks. Continuous strand glass fibers are not respirable (i.e. do not penetrate the lung alveoli). This is because fiber is over 3µm in diameter (and, mostly, over 9µm). Even after handling, the length of the finest dusts is also well over 5µm and the length / diameter ratio is greater than 3:1. These are the values determined by the World Health Organization (WHO) for the definition of respirable fibers.

REGULATORY SITUATION: None of the following official organizations have attributed any risks of cancer during the production and use of continuous filament glass fibers:

WORLD HEALTH ORGANIZATION (WHO): During its congress in June 1987, the World Health Organization (WHO) through the IARC (International Agency of Research on Cancer) examined all laboratory studies using animals and epidemiological studies carried out on continuous strand glass reinforcement tissues. The conclusion was that **GLASS FILAMENTS ARE NOT CLASSIFIED AS CARCINOGENICS**. They belong to the **GROUP 3 of IARC**. This classification has been confirmed by the IARC Working Group during its meeting of October 2001 and in the latest issue of the IARC monographs on the evaluation of carcinogenic risks to human's volume 81 on Man-made vitreous fibers, published in 2002.

THE INTERNATION LABOR OFFICE (ILO) and the CSIP (Chemical Safety International Program) came to the same conclusions in the congress held in 1987. European Commission Directive 97/69/EC dated 5/12/97, the 23rd amendment to Directive 67/548/EEC which concerns classification, packing and labeling of hazardous substances, did not think it necessary to include glass fibers as having carcinogenic risks.

OSHA (Occupational Safety and Health Administration) and NTP (U.S. National Toxicology Program), both official American organizations, have not listed continuous strand glass fibers as hazardous substances and the **ACGIH (American Conference of Government Industrial Hygienists)** has classified them as A4 (not classified as carcinogenic for Man). No new studies have led the organizations to revise their position on this subject.

Epidemiological and laboratory studies: Epidemiological and laboratory studies carried out to date do not demonstrate in a scientifically significant way any risk of cancer related to reinforcement fibers. Several recent epidemiological studies (Chiazze 1997, Boffeta 1997) confirmed The absence of excessive mortality rates due to cancer in people working in glass fiber manufacturing facilities vs. control populations.

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 reg no 1967/009108/07
email admin@vivianregina.com web www.vivianregina.com
tel +27 11 813 4147 fax +27 11 813 3743

An IMS Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 7 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



Handling glass fibers When glass fibers are chopped, milled or sanded, they are cut perpendicularly to strand length and no smaller diameter filaments are generated. Conversely, significant quantities of dust can be generated which is why it is recommended to use personal protection. In dusts also present in some products (chopped strands, crushed fibers) some studies have shown very low quantities of particles with short fibrous aspects ($1/d > 3$), but nevertheless longer than $5\mu\text{m}$, and with an apparent diameter of under $3\mu\text{m}$. Quantities of this dust measured in work atmospheres are 50 to 100 times lower than all the limits fixed for respirable fibers. However when there is a high risk of dust generation, wearing of masks is strongly recommended.

Mutagenic Risks, Teratogenic Risks, Risks for Reproduction: Continuous strand glass reinforcement fibers have no known risks.

12 - ECOTOXICOLOGICAL INFORMATION

C GLASS: Chemical Resistant Glass is not biodegradable. As the concentration of the ingredients in the binder mixture and ingredient solubility is low, glass reinforcement fibers are considered to have no adverse eco-toxicological effects.

Glass fiber products, polymers and additives are not likely to destroy the **ozone layer** and are not listed in the 1987 Montreal Protocol (Class 1 or Class 2). These lists are included in EC Regulation No. 3093/94 and in section VI of amendments to the "Clean Air Act" by the American Environmental Agency (EPA). Glass strands and binders **do not contain PCB** (Polychlorinated biphenyl) or other polyaromatic products of the same type.

13 - WASTE DISPOSAL

Depending on local regulations, glass tissue wastes can either be considered as inert waste or as common industrial waste.

Glass fiber waste cannot be destroyed by incineration and can damage incinerators by the formation of a vitrified mass.

Clean cardboard, wood, plastic (film or bags) and packaging can be eliminated in units specific to these products (i.e. for recycling or use as fuels).

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 reg no 1967/009108/07
email admin@vivianregina.com web www.vivianregina.com
tel +27 11 813 4147 fax +27 11 813 3743

An IMS Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request



Material Safety Data Sheet

QMS Ref : MDS Rev2
Page : 8 of 8
Issue Date : 22.03.2003
Rev Date : 06.08.2007
Created By : QMR

Approved:



14 - TRANSPORT

INTERNATIONAL REGULATIONS: Glass fiber tissue products are not considered as hazardous goods by transport regulations. They are not part of one of the hazardous classes listed in international regulations. They do not need special procedures under any regulations.

15 - REGULATORY INFORMATION

Glass fiber tissue products do not require hazardous product labeling (see Point 11).

General hygiene and work safety regulations apply (see Point 8).

16 - OTHER INFORMATION

GLASS FIBRE TISSUES ARE ALSO REFERRED TO AS SURFACE VEILS OR SURFACE MATS

The information given by this document is based on the best knowledge at the date shown. It is given in good faith. Furthermore, user's attention is drawn to the possible risks run when the product is used for any purpose other than the one for which it was designed.

This MSDS does not exempt users from knowing and applying the rules regulating their activities. Users assume full responsibility for applying the appropriate safety measures when the product is used.

For all additional information, users should contact Vivian Regina Marketing (Pty) Ltd

Vivian Regina Marketing (Pty) Ltd Gold Street New Era
PO Box 853 Springs South Africa 1560 **reg no** 1967/009108/07
email admin@vivianregina.com **web** www.vivianregina.com
tel +27 11 813 4147 **fax** +27 11 813 3743

An **IMS** Group Company

Directors: J. Cruz*, K. Helfrich (Managing), *Portuguese • Company Secretary: On request

