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1- IDENTIFICATTION OF THE SUBSTANCE/MIXTURE AND COMPANY/ UNDERTAKING

Identification of the substance:

Product name:

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Company/undertaking

NITRIFLEX S.A. INDÚSTRIA E COMÉRCIO

identification:

Address:

1300, Marumbi

Duque de Caxias, RJ 25250-000 - Brazil

Telephone number:

(55 21) 2776-3228 / 2128-3423

Emmergency telephone:

(55 21) 2776-3228 / 2128-3423

2- HAZARDS IDENTIFICATION

Most important hazards:

Not hazardous under normal conditions of storage and handling.

Product effects

Adverse effects to the

May cause skin and respiratory tract irritation.

human health:

Environmental effects:

It is not expected that this product presents impact to the environment.

Physical and chemical

Not classified for physical and chemical hazards.

hazards:

Classification of the

Not classified as hazardous.

substance or mixture:

Label elements according to Regulation 1272:2008 (GHS)

Symbol:

Not applicable.

Signal word:

Not applicable.

Hazard Statement:

Not applicable.

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Precaution Statement:

Not applicable.

Label elements according to Directive 67/548/EEC

Symbol:

Not applicable.

Risk Phrases:

Not classified.

Safety Phrases:

Not applicable.

3- COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name:

Acrylonitrile-butadiene copolymer.

Synonyms:

1,3-Butadiene, polymer with 2-propenenitrile

CAS no:

9003-18-3

EC no:

Not listed.

4- FIRST-AID MEASURES

Inhalation:

Remove to fresh air and keep at rest. Seek medical attention. Take this

SDS.

Ingestion:

Rinse mouth of victim with plenty of water. Induce vomiting. Seek

medical attention. Take this SDS.

Skin contact:

Remove contaminated clothing and shoes. Wash with plenty of soap

and water. Seek medical attention. Take this SDS.

Eye contact:

Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing. Seek medical

attention. Take this SDS.

Most important symptoms

and effects, both acute and

delayed:

May cause respiratory tract irritation with cough and pain. May cause nausea, vomiting and diarrhea. May cause skin irritation with redness

and pain. May cause eye irritation with redness, tearing and pain.

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Indication of any immediate medical attention and special treatment needed: Avoid contact with this product while helping the victim, keep the victim warmed. Never give anything by mouth to an unconscious person. Symptomatic treatment should include, above all, measured of support as correction of hydro electrolytic and metabolic disturbances and respiratory failure.

5- FIREFIGHTING MEASURES

Fire Extinguishing Media:

Product is not inflammable, compatible with all extinguishing media,

such as dry chemical, water spray, carbon dioxide.

Special hazards arising from the substance or mixture:

May produce carbon monoxide, carbon dioxide, products from incomplete combustion, nitrogen oxides, acrid fumes and toxic gases if

burning.

Advice for firefighters:

Self-contained breathing apparatus (SCBA) operated in positive

pressure mode and complete protective clothing.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Control of dust:

Apply exhaust ventilation system, fog or other appropriate procedure.

Removal of ignition sources:

Ignition sources should be removed preventively.

Provision of sufficient

ventilation:

Use in a well ventilated area or with exhaustion system adequate to

eliminate gases and vapors.

Prevention of inhalation and skin, mucous membranes and

eyes contact:

Do not touch damage containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation, eye and skin contact. Use appropriate personal protective equipment as indicated in —

Section 8.

Environmental precautions:

Do not let this chemical enter the environment (soil, waterways and

groundwater).



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Methods and material for containment and cleaning up:

Remove the product using vacuum systems or other method that does not generate dust. Put material in suitable containers and remove them to safe place. Reuse or provide under section 13 in case of contamination. Wash the place where the product was poured large amounts of water.

7- HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin, eyes and clothing. Avoid inhalation of fumes

or vapors from hot rubbers. Ignition sources should be removed preventively. Do not handle near incompatible materials. Use proper

personal protective equipment as indicated in Section 8.

Hygiene advice: Do not eat, drink or smoke when using this product. Wash hands

before eating, drinking, smoking or going to the toilet. Take off all

contaminated clothing and wash before reuse.

Conditions for safe storage,

including any

incompatibilities:

Keep only in original container, in a cool, dry, well ventilated place, far from heat and ignition sources. Keep away from food. Keep container

tightly closed. Keep out of reach of children.

Packaging materials: Boxes with an internal protection of polyethylene.

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8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Specific control parameters

Occupational exposure limits:

| | Butadiene (ppm) | Acrylonitrile (ppm) | Calcium carbonate (mg/m³) |
|-----------------------------|--------------------|---------------------|---------------------------|
| TLV-TWA (ACGIH, 2010) | 2 | 2 | NE |
| TLV-STEL (ACGHI, 2010) | NE | NE | NE |
| REL-TWA (NIOSH, 2010) | NE | 1 | 10 (total) / 5 (resp.) |
| REL-ST (NIOSH, 2010) | NE | NE | NE |
| REL- C (NIOSH, 2010) | NE | 10 | NE |
| IDLH (NIOSH, 2010) | NE | 85 | NE |
| PEL-TWA (OSHA, 2010) | 1 | 2 | 15 (total) / 5 (resp.) |
| PEL – ST (OSHA, 2010) | 5 | NE | NE |
| PEL – C (OSHA, 2010) | NE | 10 | NE |

NE: Not established.

Appropriate engineering controls:

Provide mechanical ventilation or direct exhaustion to the external media. It is recommended safety shower and eye bath available near work site. The engineering controls measures are the most effective to reduce exposure to the product.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Safety wide vision goggles. Avoid wearing contact lenses while using

this product.

Skin and hand protection:

Natural rubber clothing, boots and gloves.

Respiratory protection:

Respiratory protection equipment, only if the inhalation of this product becomes possible by some procedure. Semi-facial mask with air filter

against gases and autonomic air mask at emergency situations.

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Thermal hazard:

Complete air-ventilated suit, with air supply, or any thermo-resistant

clothing available.

Environmental exposure

controls:

Do not discharge directly into the environment or into the sewer system.

The dilution water from fire fighting can cause pollution.

9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Crumbs.

Odor:

Characteristic.

Odor threshold:

Not established.

pH:

Not applicable.

Melting point/freezing point:

Not applicable.

Initial boiling point and

Not applicable.

boiling range

Flashpoint:

Not applicable.

Evaporation Rate

Not applicable.

Flammability:

Not applicable.

Upper/lower flammability or

explosive limits:

Not established.

Vapour density (Air=1):

Not applicable.

Vapour Pressure (mm Hg):

Not applicable.

Relative density:

 ~ 0.98

Solubility:

Insoluble.

Partition coefficient: n-

octanol/water:

Not applicable.

Auto-ignition temperature:

> 373°C (703,4°F)

Decomposition temperature:

Not established.

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Explosive properties:

Not applicable.

Oxidizing properties:

No oxidizing properties.

10- STABILITY AND REACTIVITY

Chemical stability:

conditions of storage handling. Stable under normal and Polymerization will not occur. It's not sensible to mechanical impacts.

Possibility of hazardous

There are not known hazardous reactions with the product.

reactions:

Incompatible materials:

There are not known products or incompatible materials.

Conditions to avoid:

High temperatures. Ignition sources.

Hazardous decomposition

products:

Carbon monoxide, carbon dioxide, products from incomplete

combustion, nitrogen oxides, acrid fumes and toxic gases.

11- TOXICOLOGICAL INFORMATION

Acute toxicity:

Not hazardous under normal conditions of handling. The ingredients that contribute to the hazard are incorporated to the product so that exposure is not expected. Avoid inhalation of fumes or vapors from hot rubbers.

Skin corrosion/irritation:

Contact with dust may cause irritation with redness, itching and dryness. May cause dermatitis after repeated and prolonged contact

with skin.

Serious eye damage/irritation: Contact with dust may cause irritation of eyes with redness and itching.

May cause conjunctivitis.

Respiratory or skin

It's not expected any sensitization.

sensitization:

Germ cell mutagenicity:

There is no relevant data of germ cell mutagenicity.

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Carcinogenicity:

This product it is not listed as carcinogenic to humans (IARC, ACGIH,

NIOSH).

The ingredients that contribute to the hazard are incorporated to the

product so that exposure is not expected.

- 1,3 butadiene: is probably carcinogenic to humans (IARC - 2A), there

is evidences that increased risk of leukaemia and lymphoma.

- Acrylonitrile: is possibly carcinogenic to humans (IARC - 2B), there

is evidences that increased risk of lung cancer.

Reproductive toxicity:

There is no relevant data of reproductive toxicity.

STOT – single exposure:

Inhalation of fine particles of the product causes irritation to the respiratory tract with coughing, sneezing, sore throat, shortness of breath and dyspnea. May cause pneumocose and changes in pulmonary function. Overexposure to the residual monomer vapors may cause respiratory tract irritation with cough and central nervous system

depression with headache, dizziness, confusion and drowsiness.

STOT – repeated exposure:

Repeated exposure to hot fumes or vapors which may form during

processing can cause irritation to the respiratory tract.

Aspiration hazard:

There is no relevant data of aspiration hazard.

12- ECOLOGICAL INFORMATION

Toxicity:

Not classified as hazardous for aquatic life.

Persistence and degradability: It's expected high persistence and low degradability.

Bioaccumulative potential:

It's expected low bioaccumulative potential in aquatic organisms.

Mobility in soil:

It's expected low mobility in soil.

Results of PBT and vPvB

Not available.

assessment:

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13- DISPOSAL CONSIDERATION

Product: The treatment and disposal should be evaluated specifically for each

product. Can be deposited in landfills, sent to an appropriate incineration or other means of disposal provided they meet the requirements of local law. Recycling can be applied provided they

obey the relevant laws.

Product waste: Keep the product remains in their original containers and properly

sealed. Disposal should be performed as established for the product.

Contaminated packaging: Do not reuse empty containers. These may contain residues of the

product and must be kept closed and sent for destruction in the appropriate place. In some cases the packaging should be returned to the registering company or supplier. Recycling can be applied provided

they obey the relevant laws.

14- TRANSPORT IMFORMATION

National and international regulations

Land (Road/rail):

UN - "United Nations"

Recommendations on the TRANSPORT OF DANGEROUS GOODS.

Model Regulations, 16th Edition, 2009.

Waterways (sea/inland):

IMO - "International Maritime Organization"

International Maritime Dangerous Goods Code (IMDG Code) -

Incorporating Amendment 34-08; 2008 Edition.

Air:

IATA - "International Air Transport Association"

Dangerous Goods Regulation (DGR) - 51th Edition, 2010.

UN number:

Not classified as hazardous for transport.

UN proper shipping name:

Not applicable.

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Transport hazard class:

Not applicable.

Packing group:

Not applicable.

Environmental hazards:

Not hazardous.

Transport in bulk according to It's not listed.

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Annex II of MARPOL73/78

and the IBC Code:

15- REGULATORY INFORMATION

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Regulation 1272:2008: GHS, United Nations, 3th Revised Edition, 2009

ECB: Directives 67/548 e 1999/45

UN Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations, 16th Edition, 2009

16-OTHER INFORMATION

The NITRIFLEX warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is responsibility of the product user enterprise to promote the training of its employees and contractors about the possible risks arising from the product.

Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists

CAS - Chemical Abstracts Service

IARC - International Agency for Research on Cancer

IDLH – Immediately Dangerous to Life or Health

NIOSH - National Institute for Occupational Safety and Health



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OSHA - Occupational Safety & Health Administration

PEL – Permissible exposure limit

REL - C - Recommended Exposure Limit - Ceiling

REL - Recommended Exposure Limit

STEL/ST – Short Term Exposure Limit

TLV - Threshold Limit Value

TWA - Time Weighted Average