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1. Identification of the substance/mixture and of the company / undertaking

Trade name	NCRT	
Synonyms	New Crumb Rubber Technology	
Use	Asphalt premix applications, Spray grade applications, Chip & Spray	
Company	Tosas (PTY) Limited 12 Commercial Road Wadeville Germiston, 1422 Republic of South Africa	
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2. Hazards identification

Identification of the risks**To man**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 45 May cause cancer.

To Environment

- Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- GHS label elements

Safety Hazards

T Toxic

- Information concerning particular hazards for human and environment:

Danger

3.6/1B - May cause cancer.

- Prevention:

Obtain special instructions before use.

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

Use personal protective equipment as required.

- Response:

IF exposed or concerned: Get medical advice/attention.

- Storage:

Store locked up.

- Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.



3. Composition/information on ingredients

Reprocessed rubber Naphthenic/Aromatic Extender Oil CAS-No. 64742-04-7 Carbon Black 1333-86-4 Talc 64742-02-7 Zinc oxide 1314-13-2 Sulphur 7704-34-9 Content: 80 – 100% W/W Index-No. Symbo(s) Carc. Cat. 2; T; R 45  R-pharse(s) 3.6/1B 	Proprietary information Content: 0-20 % W/W CAS-No. Index-No. EC-No. Symbol(s) R-pharse(s)
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Chemical nature

Preparation, mixture of heavy paraffinic distillate solvent extract, rubber crumb and hydrocarbon wax

Other information

For the full text of the R-phrases mentioned in this Section, see Section 16.

4. First aid measures

Syptom and effects:

Inhalation :	Vapors cause slight irritation of respiratory system if present in high concentrations Supply fresh air; consult doctor in case of complaints.
Eye :	Symptoms may include pain, tears, swelling, redness and blurred vision. Rinse opened eye for several minutes under running water, seek medical attention if irritation persists.
Ingestion :	Ingestion may cause gastro intestinal disturbances including irritation, nausea, vomiting, abdominal pain as well as headaches, respiratory difficulties and mild convulsions
Skin :	If in molten state contact with skin can result in severe irritation and thermal burns
Product inhalation :	Remove to fresh air. If breathing has stopped, apply respiration and seek immediate medical assistance. If breathing, but unconscious, place in the recovery position and seek immediate medical assistance. If heartbeat is absent, give external cardiac compression and seek immediate medical assistance. This is applicable to manufacturing and transport environment.
Product in eye :	Rinse eye immediately with large amounts of cold water for at least ten (10) minutes. Keep eye closed. Patient should not to rub eye. If irritation persist, seek medical advice. Symptoms may include blindness, pain, tears, swelling, redness and blurred vision
Product ingestion :	Rinse mouth with water, seek medical attention.
Product on skin :	In case of product being in a molten state the affected areas should be immediately immersed in or flushed with large amounts of cold water. Prompt medical advice should be sought.. DO NOT REMOVE FROM SKIN. SEEK MEDICAL ASSISTANCE.
ADVICE TO PHYSICIANS:	Where severe burns have occurred, the patient must immediately be transferred to a burn unit and under no circumstances must the rubber be removed until medical treatment has been advised



5. Firefighting measures

Extinguishing Media	Not likely to be ignited, but when ignited difficult to control fire
Fire	Large fires can be extinguished with dry chemical powder, carbon dioxide (CO ₂) or water spray. Fight larger fires with water spray or alcohol resistant foam. Water may be used to cool down surrounding area, exposed surfaces and to protect personnel
Hazards	Do not use water jet, Thermal decomposition may produce carbon monoxide, carbon dioxide, zinc oxide fumes/dust, sulfur dioxide, liquid and gaseous hydrocarbons.
Protective equipment	Proper protective equipment including self-contained breathing apparatus and eye protection must be worn when dealing with fires, especially fires in confined spaces

6. Accidental release measures

Personal protection:	See section 8: Personal protective equipment. Evacuate the area of all non-essential personnel and public. Prevent hot material coming into contact with water and other liquids. Shut off leaks and remove ignition sources. Full protective clothing should be worn when dealing with hot material. Only applicable if product has combusted or is on fire.
Small spillages:	This material can generally be swept up and be repurposed. Contaminated material should be collected and placed in suitable, clearly marked containers for disposal or reclamation in accordance with local laws and regulations
Large spillages:	Prevent the spill from spreading by construction trenches or barriers, with sand, earth or other containment material
Environmental:	Prevent from spreading or entering into drains, ditches or rivers by using the methods detailed under spillage. Prevent further spillage if safe to do so

7. Handling and storage

Handling:	Store in cool, dry place in tightly closed receptacles. Keep away from heat and direct sunlight. Open and handle receptacle with care.
Handling temperature:	Ambient 25°C
Storage	Precautions must be taken to prevent ingress of water Requirements to be met by storerooms and receptacles: Store in closed containers in cool, dry conditions. The lowest practicable storage temperatures should be used and through-draughts of air avoided to minimise risk of generating flammable conditions The product should be stored in well-ventilated areas, store away from oxidising materials. Sparks, flames and other sources of ignition near the product must be avoided



8. Exposure controls/personal protection

Engineering control measures

Locate emergency equipment at well-marked and clearly identified stations in case emergency escape is necessary. Ingredients with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Exposure Limits:

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Reprocessed rubber	10 mg/m ³ Total dust	15 mg/m ³
Naphthenic/Aromatic Extender Oil	Not applicable	5 mg/m ³ , Mist
Carbon Black	3.5 mg/m ³	3 3.5 mg/m ³
Talc		
Zinc oxide	10 mg/Cu. Meter	5mg/Cu. Meter total dust
Sulphur	10 mg/Cu. Meter	

Personal protective equipment

Respiratory protection

In case of insufficient ventilation, wear suitable self-contained respiratory equipment.

Hand protection

Gloves suitable for permanent contact:

Heat resistant PVC, rubber or leather gloves

Material: butyl-rubber

Break through time: 4 h

Material thickness: 0.5 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection

Safety visor, face shield or tightly sealed safety goggles

Hygiene measures

Wash overalls and undergarments regularly. Dispose of soiled gloves. Do not eat, drink or smoke while product is being handled.

Protective measures

Skin

Protective clothing comprising of safety shoes or boots, 100% cotton full length overalls.

Additional information:

The lists valid during the making were used as basis.

9. Physical and chemical properties

State of matter	black crumbs/granules/coarse powder
Color	Black
Specific gravity typical	1.0—1.15
Auto ignition	370-450 deg. C
Self-igniting:	Spontaneous combustion can only occur if the material has not been cooled down to ambient temperature. Spontaneous combustion can occur in the following event: water vapour condensing forms a droplet that runs down or between the rubber material while hot can lead to spontaneous combustion.
Solubility – water	Insoluble
Solubility – solvent	Organic solvent 0%, V.O.C 0%
Solid content	100%



10. Stability and reactivity

Conditions to avoid	Avoid strong oxidizing agents.
Thermal decomposition / conditions to be avoided:	Avoid excessive heat, flames or other sources of ignition. Avoid strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, hydrogen, hydrogen sulphide, pentadiene, benzene, xylene, carbon, ash, oxides of sulphur and nitrogen, zinc oxide, and numerous unidentified organic compounds.

11. Toxicological information

LD50 (Oral Rat)	LD50 (Dermal Rabbit)	LC50 (Inhalation Rat)
Acute toxicity	The acute effects of ingestion rubber have not been determined. This product is a mechanical irritant for which no LD50 has been established. Not considered to be an inhalation hazard under normal conditions of use	
Oral		
Dermal inhalation	Notes to Physician: This product is a mechanical irritant and is not expected to have any chronic health effects for a single exposure. Treat exposure by removing source of irritation and treating symptomatically.	
Chronic toxicity	Prolonged contact with untreated naphthenic/aromatic oils caused skin cancer in mice when applied over a two-year period. Untreated naphthenic/aromatic oils are classified as carcinogenic to humans by IARC. Some countries require the "R45" designation due to the presence of this oil. There is evidence that contact with ground rubber may aggravate pre-existing dermatitis. Some rubbers contain nitrosamines, which have also been shown to be carcinogenic to animals in the laboratory.	
Skin		
Eyes	Contact with eyes will cause general irritation such as occurs when foreign object enters the eye. Redness, itchiness, and tearing may result.	
Respiratory	Inhalation of fine particles may cause mild irritation of the respiratory tract. Fumes generated during processing may also be mildly irritating to the eyes and respiratory tract. No data available	
Carcinogenicity		
Mutagenicity	No history or data to support mutagenicity	
Productivity	No data available	

12. Ecological information

Eco toxicity effects	Eco toxicological information has not been determined especially for NCRT
Biodegradation	Not biodegradable
Bioaccumulation	Information not available
Mobility	Semi-solid under most environmental conditions
Water hazard class	2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.



13. Disposal considerations

Disposal method	Waste product should not be allowed to contaminate soil or water. Waste arising from spillage or tank cleaning operations should be disposed of in accordance with prevailing regulations (Section 20 (i) of the Environment Conservation Act) preferably by a recognised collector or contractor. The competence of the collector or contractor should be established beforehand
Disposal of packaging	Bulk operation
Classification	Not classified

14. Transport information

IMDG	Not regulated, UN number: 5030
ICAO/IATA	Not regulated, UN number: 5030

15. Regulatory information

Labelling



Regulatory base	UN 5030
R-phrases(s)	R45: May cause cancer. R22/R63 Harmful: may cause lung damage if swallowed. R36/37 Irritating to eyes and respiratory system.
S-phrases(s)	S53 Avoid exposure - obtain special instructions before use. 1/2 Keep locked up and out of the reach of children. S29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). <i>Restricted to professional users.</i>

Special labelling of certain mixtures

EEC Hazardous Classification

Not classified as dangerous under current EC criteria



16. Other information

Full text of R-phrases referred to under sections 2 and 3

All reasonable efforts were exercised to compile this SDS. The SDS provides information regarding the health, safety and environmental hazards, at the date of issue, to facilitate the safe receipt, use and handling of the product in the workplace. Since TOSAS and its subsidiaries cannot anticipate or control all conditions under which the product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this SDS in the context within which the product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place as regards health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of the product. Although all reasonable efforts were exercised in the compilation of this SDS, TOSAS does not expressly warrant the accuracy or assume any liability for the incompleteness of the information contained herein or any advice given. The product is sold and risk passes in accordance with the specific terms and conditions of sale. This product is produced for the use of Tosas binders.

Useful references include the following:

- | | | | |
|--------|---|---|-------------------------|
| (i) | Concave Report | : | entech rubber crumb sds |
| (ii) | Health: A Case-Control Study of Lung Cancer | : | entech rubber crumb sds |
| (iii) | IARC working groups | : | entech rubber crumb sds |
| (iv) | CAS registration numbers | : | cas.ChemNet.com |
| (v) | Sasol Wax | : | NCRT sds |
| (vi) | Delamo Green clean | : | SDS |
| (vii) | QMax solutions inc | : | rubber crumb sds |
| (viii) | UN enterprise search | : | |

https://search.un.org/results.php?query=ground%20tire%20rubber%20recycling&ie=utf8&output=xml_no_dtd&oe=utf8&Submit=Search&_ga=GA1.2.1155253303.1585989497&_gid=GA1.2.970012971.1585989497&_gat=1&_gali=searchfrm&lang=en&rows=10&tpl=un

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