MATERIAL SAFETY DATASHEET

DURAM NS7 HEAT RESISTANT PAINT

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Trade name: NS7 HEAT RESISTANT PAINT

1.2 Relevant identified uses of the substance or mixture and uses advised against
Application of the substance: metal coating.

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Zest Polyurethanes
Alternator Avenue, Montague Gardens, Cape Town, South Africa, 7441, Tel: +27 (021) 555-3090
Further information obtainable from: The Technical Manager, Zest Polyurethanes. Email: zest@duram.co.za

1.4 Emergency telephone number: The Technical Manager, Zest Polyurethanes, Tel: +27 (021) 555-3090 (GMT 10:00-18:00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture – according to Regulation (EC) No 1272/2008 [CLP]
- Flammable Liquids – Category 3
- Skin Corrosion - Category 2
- Specific Target Organ Toxicity (Single Exposure); (Respiratory Tract Irritation) – Category 3
- Acute Aquatic Hazard – Category 3
- Percentage of the Mixture consisting of ingredient(s) of Unknown Hazards to the Aquatic Environment Less than 5%

2.2 GHS Label elements

Hazard Pictograms

Signal Word: Warning
Hazard Statements:

H226  Flammable liquid and vapour
H315  Causes skin irritation
H373  May cause damage to organs through prolonged or repeated inhalation exposure

Precautionary Statements: (Prevention):

P210  Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P280  Wear protective gloves/protective clothing/eye protection/face protection
P284  In case of inadequate ventilation wear respiratory protection

Precautionary Statements: (Response):

P302 + P352  IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do - continue rinsing.

Precautionary Statements: (Storage):

P403 + P233  Store in a well ventilated place. Keep container tightly closed.

Precautionary Statements: (Disposal):

P501  DDispose of contents/container to landfill site after solidification.

Labelling of special preparations: (GHS):
Flammable, irritant..

According to Regulation (EC) No 1272/2008 [CLP]
Hazard determining component(s) for labelling:  ALCOHOLS,Xylene (mixed isomers).

2.3 Other hazards

According to Regulation (EC) No 1272/2008 [CLP]
No specific dangers known, if the regulations/notes for storage and handling are considered.

3. COMPOSITION / INFORMATION OF INGREDIENTS

3.1 Chemical characterisation: Mixtures
Polysiloxane.
Description: Mixture of substances listed below with non-hazardous additions

<table>
<thead>
<tr>
<th>Hazardous ingredients (GHS) according to Regulation (EC) No 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 1330-20-7 EINECS: 215-535-7</td>
</tr>
<tr>
<td>CAS: 64-17-2</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Act: Use hand cleaner/soap and water. Remove contaminated clothing. If skin irritation continues, consult a doctor. After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. After inhalation: Move to fresh air. In case of any discomfort, seek medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed
Inhalation sensitiser with accumulative effects. Risk of dermatitis. May cause lung damage if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed
If ingested, do not induce vomiting. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing agents: Foam. Carbon dioxide. Dry powder. Fog to cool and control.
Unsuitable extinguishing agents, for safety reasons: Do NOT use water jets. Containers can become pressurised if contents are contaminated with water.

5.2 Special hazards arising from the substance or mixture
Flammable with toxic fumes.

5.3 Advice for firefighters
Wear protective equipment and respirators. Blown or distorted containers should be handled with extreme caution.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions
Do not allow to enter drains or sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up
Ensure adequate ventilation. Hazardous in liquid state. Solidify by reaction with water before disposal.

6.4 Reference to other sections
See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Information about protection against fire and explosion: Flammable. No open flames. No smoking.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles: Store separately from any reactive substances, especially oxidisers.
Information about storage in one common facility: As above.
Further information about storage conditions: Keep containers tightly sealed.

7.3 Specific end use(s)
Open with care. Cover lid/bung with a cloth while releasing pressure.
Generates carbon dioxide gas from reaction with water. Do not seal if contaminated with water due to danger of bursting.

8. EXPOSURE CONTROLS/PERSOenal PROTECTION

Additional information about design of technical facilities: Adequate ventilation. See items 7.1 and 7.2.

8.1 Control parameters
Ingredients with limit values that require monitoring in the workplace: Monitoring is not required.
The product has no quantities of materials with critical values.

Additional information:

<table>
<thead>
<tr>
<th>Component</th>
<th>IOELV TWA (8 hours)</th>
<th>IOELV STEL (15 minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene (1330-20-7)</td>
<td>50 ppm</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td>Ethanol (64-17-2)</td>
<td>---</td>
<td>1880 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
General protective and hygiene measures: Wash hands before breaks and at the end of work. Do not inhale gases/fumes.

Personal protective equipment:

- Respiratory protection:
  A cartridge-type respirator with cartridge for organic fumes is essential for spraying operations.

- Eye protection:
  Wear tightly sealed goggles or face shield.

- Hand protection:
  Wear nitrile rubber gloves.

Material of gloves: The selection of suitable gloves also depends on marks of quality, which vary from manufacturer to manufacturer. The resistance of the glove material cannot be calculated in advance and therefore has to be checked prior to the time of application.

Penetration of glove material: Observe the exact breakthrough time supplied by the manufacturer.

Skin protection: Wear overalls and safety boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

**Appearance:**
- Physical state: Liquid
- Colour: Black, silver
- Odour: Aromatic
- Odour threshold: Not determined
- pH value: 8.0

**Change in condition:**
- Melting point/Melting range: < −46 °C
- Boiling point/Boiling range: 140 °C
- Flash point: 27 °C (ASTM D56)
- Flammability (solid, gaseous): Flammable
- Ignition temperature: > 200 °C
- Decomposition temperature: 200 °C
- Self-igniting: Product is not self-igniting.
- Danger of explosion: Explosion of mixtures with oxygen possible. Produces carbon dioxide gas when mixed with water. Subsequent sealing of drums can lead to pressure burst.

**Explosion limits:**
- Upper: 2.1 % by volume
- Lower: 11.5 % by volume
- Vapour pressure at 20 °C: 14.2 hPa
- Density at 20 °C: 1.180 g/cm³
- Relative density: 1.180 (water = 1.00)
- Vapour density: Not determined
Evaporation rate: Not determined
Solubility in / Miscibility with water: Not miscible, reacts with water
Segregation coefficient (n-octanol/water): Not determined

**Viscosity:**
- Dynamic at 20 °C: 65 – 70 ku
- Kinematic: Not determined

**Solvent content:**
- Organic solvents: <32 % by mass
- Water: < 0.1 % by mass
- Solids content: > 68 % by mass or 55 % by volume

9.2 **Other information**
No further relevant information available.

VOC (EU) ≤ 380g/L
VOCV ≤ 45% by volume

### 10. STABILITY AND REACTIVITY

10.1 **Reactivity**
Not reactive.

10.2 **Chemical stability**
Thermal decomposition / conditions to be avoided: Could produce static discharge – use earthing.

10.3 **Possibility of hazardous reactions**
Stable if stored under normal conditions.

10.4 **Conditions to avoid**
When exposed to abnormally high temperatures containers will bulge and possibly burst.

10.5 **Incompatible materials**
Oxidisers. Reacts with water, generating carbon dioxide gas.

10.6 **Hazardous decomposition products**
Hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke may be produced.

### 11. TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects**
Acute toxicity: LD$_{50}$/ LC$_{50}$ values relevant for classification:

<table>
<thead>
<tr>
<th></th>
<th>XYLENE:</th>
<th>ETHANOL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral (LD$_{50}$)</td>
<td>4300 mg/kg (rat)</td>
<td>Oral (LD$_{50}$)</td>
</tr>
<tr>
<td>Dermal (LD$_{50}$)</td>
<td>&gt; 1700 mg/kg (rabbit)</td>
<td>Dermal (LD$_{50}$)</td>
</tr>
<tr>
<td>Inhalation (LC$_{50}$)</td>
<td>27.6 mg/l / 4 hours (rat)</td>
<td>Inhalation (LC$_{50}$)</td>
</tr>
</tbody>
</table>

No carcinogenic, mutagenic, or genetic effects have been established.
Primary irritant effect: Skin and Inhalation irritant.

**XYLENE**
- On the skin: Practically non-irritating.
- On the eyes: Irritant.
- Orally: Low toxicity.
Through inhalation
Harmful. Can irritate the respiratory tract and cause headaches and giddiness.
Possible irritation and disturbances.

ETHANOL
On the skin
Slight to moderate irritation.
On the eyes
Moderate eye irritation.
Orally
Low toxicity.
Through inhalation
Can cause narcotic effect, patient may appear drunken.
Sensitisation
Not documented.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Aquatic toxicity: None of the components is persistent in the aquatic environment.

12.2 Persistence and degradability
Biodegradable. Once solidified, can be disposed of in landfill sites (consult local regulations).

12.3 Bioaccumulative potential
Not bioaccumulative.

12.4 Mobility in soil
Low. Evaporates.

Additional ecological information:
General notes: Considered harmful to terrestrial vertebrates. May have short-term environmental effects. Contain, monitor and remove.

12.5 Results of PBT and vPvB assessment
Not applicable.

12.6 Other adverse effects
No further relevant information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Use reputable waste disposal contractors. Destroy used containers. Consult local official regulations.

Uncleaned packaging
Recommendation: Leave container unsealed for 3 to 4 days for evaporation to occur. Once liquids are no longer present, container may be disposed of in a landfill site. Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

14.1 UN-Number
ADR, IMDG, IATA
UN 1263
14.2 UN proper shipping name
ADR 1263 PAINT
IMDG, IATA PAINT

14.3 Transport hazard classes

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>3 Flammable liquids</td>
</tr>
<tr>
<td>Label</td>
<td>3</td>
</tr>
</tbody>
</table>

IMO class: 3
EA code: 127
HAZCHEM code: 3 (Y)

14.4 Packing group
ADR, IMDG, IATA III

14.5 Environmental hazards
Marine pollutant: ND (Not Dangerous)

14.6 Special precautions for user
Warning: Flammable liquids
Danger code (Kemler): 33
EMS Number: F-E-S-E

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

Transport/Additional information: For ADR and IMDG: Transport and packing are in accordance with the regulation for limited quantities. This product is therefore non-dangerous goods.

ADR
Limited quantities (LQ) 1 L and 4 L
Transport category 3

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Compliant with REACH, CLP and GHS

15.2 Chemical safety assessment
Chemical Safety Assessment not yet performed due to registration timelines. Exposure scenarios for the mixture cannot be provided at the moment because exposure scenarios are not yet available for all relevant substances due to registration timelines. For advice on essential measures see sections 7 and 8 of this safety data sheet.

16. OTHER INFORMATION
PAY SPECIAL ATTENTION TO STORAGE AND HANDLING REQUIREMENTS.
IN CASE OF ANY DISCOMFORT FROM CONTACT WITH THE MIXTURE, ALWAYS SEEK MEDICAL ADVICE.

H226 Flammable liquid and vapour
H312 Harmful in contact with skin
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H312 + H332 Harmful in contact with skin or inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 May cause respiratory irritation

Notice to Reader
Important Note: The information contained in this Data Sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and is believed to be correct at the date of its preparation. It is the user’s responsibility to verify that this data sheet is current prior to using the product in which is detailed in it.

Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to its use. Where those purposes are other than as specifically recommended in this safety data sheet, the user then uses the product at their own risk.

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