

## Section 1. Identification

### 1.1 Product Identifier 3727

Product Name HARDNESS BUFFER (ERIO-CHROME)

CAS Number Mixture

REACH Registration No A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

### 1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

### 1.3 Supplier Vickers Laboratories Ltd



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### 1.4 Emergency Telephone (08:00-16:30) +44(0) 113 2362811 (24hr) 112 (Have this document to hand)

## Section 2. Hazards Identification

### 2.1 Classification of the substance or mixture

#### Classification according to regulation 1272/2008/EC

Skin corrosion/irritation, category 1B H314: Causes severe skin burns and eye damage.  
Spec target organ tox - single, category 3 H335: May cause respiratory irritation.  
Hazard to aquatic environment, category 1 H400: Very toxic to aquatic life.

### 2.2 Label elements

#### Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life.

Precautionary Statements Do not breathe fume/vapours. Wash thoroughly after handling. Wear protective gloves / protective clothing / eye protection. Use only outdoors or in a well-ventilated area. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep container tightly closed.

## Section 3. Composition

### 3.2 Mixtures

| Component | CAS No.   | EEC No.   | REACH No. | Conc w/w | CLP Classification (1272/2008/CE)           |
|-----------|-----------|-----------|-----------|----------|---------------------------------------------|
| Ammonia   | 1336-21-6 | 231-635-3 |           | 19.9%    | Skin Corr. 1A,STOT SE 3 (I),Aquatic Acute 1 |

## Section 4. First Aid

### 4.1 Description of first aid measures

|                                      |                                                                                                                                                                                                                                                                       |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes                                 | Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.                                                                                                                                                     |
| Skin                                 | Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.                                                                                        |
| Inhalation                           | Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If conscious place in a sitting position. OBTAIN MEDICAL ATTENTION URGENTLY. |
| Ingestion                            | If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.                                                                                                                 |
| Personal protection for first aiders | Wear protective gloves / eye protection.                                                                                                                                                                                                                              |

### 4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

### 4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

## Section 5. Fire Fighting

### 5.1 Extinguishing media

|                     |                                                                |
|---------------------|----------------------------------------------------------------|
| Extinguishing Media | Water spray, dry powder, carbon dioxide or vaporising liquids. |
| Unsuitable Media    | Nothing specified.                                             |

### 5.2 Special hazards arising from the substance or mixture

|         |                                                                                  |
|---------|----------------------------------------------------------------------------------|
| Hazards | May evolve toxic fumes if involved in a fire. Vapour-air mixtures are explosive. |
|---------|----------------------------------------------------------------------------------|

### 5.3 Advice for firefighters

|                         |                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advice for firefighters | Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Section 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

|                     |                                                                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Protection | Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 6.2 Environmental precautions

|               |                                                                                                                                                                      |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental | Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs. |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 6.3 Methods and material for containment and cleaning up

|                |                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Major Spillage | Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.                               |
| Minor Spillage | Contain and absorb on inert material. Neutralise with 5M hydrochloric acid. Transfer absorbent to container for removal. Wash area down with copious amounts of water. |

#### 6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

## Section 7. Storage & Handling

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

### 7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition.

### 7.3 Specific end use(s)

See section 1.2.

## Section 8. Workplace Exposure & Personal Protection

### 8.1 Control parameters

| Component | CAS No    | Concentration | Workplace Exposure Limits |                         |          |             |
|-----------|-----------|---------------|---------------------------|-------------------------|----------|-------------|
|           |           |               | Long Term (8hr TWA)       | Short Term 15min period |          |             |
| Ammonia   | 1336-21-6 | 19.9%         | 25.0 ppm                  | 18.0 mg/m-3             | 35.0 ppm | 25.0 mg/m-3 |

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

### 8.2 Exposure controls

|                        |                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory Protection | Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus. |
| Hand Protection        | Use nitrile gloves or PVC gauntlets.                                                                                                                                                               |
| Eye Protection         | Use tightly fitting chemical splash proof glasses or goggles.                                                                                                                                      |
| Skin Protection        | If skin contact or contamination of clothing is likely, protective clothing must be worn.                                                                                                          |
| Special Hazards        | No special precautions required.                                                                                                                                                                   |

## Section 9. Physical & Chemical Properties

### 9.1 Information on basic physical and chemical properties

|                       |                                   |
|-----------------------|-----------------------------------|
| Appearance            | Clear colourless liquid.          |
| Odour                 | Pungent and intensely irritating. |
| pH                    | Not applicable                    |
| Boiling Point         | Aqueous solution                  |
| Melting Point         | Not applicable                    |
| Flash Point           | Not applicable                    |
| Upper Flammable Limit | 25%                               |
| Lower Flammable Limit | 16%                               |
| Auto Ignition         | 651°C                             |
| Explosive Properties  | Slight.                           |
| Oxidising Properties  | No.                               |
| Vapour Pressure       | 760mmHg @ 26°C                    |
| Relative Density      | 0.9520                            |
| Water Solubility      | Completely soluble in water.      |

### 9.2 Other information

No data available.

## Section 10. Stability & Reactivity

|      |                                    |                                                                                                                                                              |
|------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1 | Reactivity                         | No data available.                                                                                                                                           |
| 10.2 | Chemical Stability                 | Stable under normal conditions                                                                                                                               |
| 10.3 | Possibility of hazardous reactions | No data available.                                                                                                                                           |
| 10.4 | Conditions to Avoid                | No specific conditions.                                                                                                                                      |
| 10.5 | Incompatible Materials             | Halogens and halogen compounds. Picric acid. Potassium chlorate. Mercury. Ethylene oxide. Dimethyl sulphate. Chromium trioxide and other chromium compounds. |
| 10.6 | Hazardous Decomposition Products   | May produce hazardous fumes if involved in a fire.                                                                                                           |

## Section 11. Toxicological Information

### 11.1 Information on toxicological effects

|                      |                                                                                                                                                                                                                                                                                                                                      |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes                 | The vapour will be extremely irritating to eyes and can cause chemical eye burns. Damage can range from severe irritation and corneal scarring to permanent blindness.                                                                                                                                                               |
| Skin                 | The liquid may cause severe burns on prolonged contact.                                                                                                                                                                                                                                                                              |
| LD50 Skin            | Not available                                                                                                                                                                                                                                                                                                                        |
| Ingestion            | Ingestion will cause severe mouth burns, and if swallowed extensive damage to the oesophagus.                                                                                                                                                                                                                                        |
| LD50 Oral            | Not available                                                                                                                                                                                                                                                                                                                        |
| Inhalation           | Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will effect the central nervous system causing spasms. In fatal cases severe damage to the lungs occurs along with secondary cardiovascular effects. |
| LD50 Inhalation      | Not available                                                                                                                                                                                                                                                                                                                        |
| TCLo                 | Not available                                                                                                                                                                                                                                                                                                                        |
| Carcinogenicity      | Not considered to be a carcinogen.                                                                                                                                                                                                                                                                                                   |
| Mutagenicity         | May be a mutagen but only by excessively high, probably fatal, exposure.                                                                                                                                                                                                                                                             |
| Reproductive Effects | No information is available.                                                                                                                                                                                                                                                                                                         |
| Other Information    | The irritant effect provides warning that control of exposure is needed. 15ppm is the threshold for irritation with severe irritation occurring above 22ppm.                                                                                                                                                                         |

## Section 12. Ecological

|      |                                  |                                                                                                                                                                                                                                                                                                                                                               |
|------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.1 | Toxicity                         | Solutions or high vapour concentrations will cause damage to vegetation. If introduced into rivers lakes etc, pH of water is important. If >7.5-8 will form free ammonia which is toxic to aquatic life. Highly mobile and readily diluted in water courses. Readily bio-degraded in the environment. Low levels are readily bio-degraded in the environment. |
|      | LC50 Algal                       | Not available                                                                                                                                                                                                                                                                                                                                                 |
|      | LC50 Crustacea                   | Not available                                                                                                                                                                                                                                                                                                                                                 |
|      | LC50 Fish                        | Not available                                                                                                                                                                                                                                                                                                                                                 |
| 12.2 | Persistence and degradability    | No data available.                                                                                                                                                                                                                                                                                                                                            |
| 12.3 | Bioaccumulative potential        | No data available.                                                                                                                                                                                                                                                                                                                                            |
| 12.4 | Mobility in soil                 | No data available.                                                                                                                                                                                                                                                                                                                                            |
| 12.5 | Results of PBT & vPvB assessment | Assessment not required.                                                                                                                                                                                                                                                                                                                                      |
| 12.6 | Other adverse effects            | None known at present.                                                                                                                                                                                                                                                                                                                                        |

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

|                        |                                                                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal Methods       | Dispose of in a licensed incinerator. Never dispose of into water courses or sewerage systems.                                                                                             |
| Contaminated Packaging | Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion. Clean out with a weak hydrochloric acid solution then wash out thoroughly with water. |

## Section 14. Transport Information

|                                   |                                  |
|-----------------------------------|----------------------------------|
| 14.1 UN Number                    | 2672                             |
| 14.2 Proper Shipping Name         | Ammonia solution                 |
| 14.3 Transport classes            |                                  |
| UN classification                 | 8                                |
| Subsidiary hazard(s)              | None                             |
| Transport category                | 3                                |
| ADR Hazard ID                     | 80                               |
| Tunnel Restriction Code           | E                                |
| 14.4 Packing Group                | III                              |
| 14.5 Environment hazards          | See section 12.                  |
| 14.6 Special precautions for user | No special precautions required. |
| 14.7 Transport in bulk            | Not transported in bulk.         |



## Section 15. Regulatory Information

### 15.1 Safety, health and environment regulations specific for substance/mixture.

#### Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Skin corrosion/irritation, category 1B; Spec target organ tox - single, category 3; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H314, H335, H400  
Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life.

Precautionary Statements P260, P264, P280, P271, P303+P361+P353, P403+P233  
Do not breathe fume/vapours. Wash thoroughly after handling. Wear protective gloves / protective clothing / eye protection. Use only outdoors or in a well-ventilated area. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep container tightly closed.

### 15.2 Chemical safety assessment

Assessment not required.

## Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

Revision number: 1.1 (Supercedes revision 1.0)

Revision date: 16 April 2021

Reviewed by chemist: 16 April 2021

Printed date: 12 August 2023

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