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| DOCUMENT NO: SDS.BME-1 | ISSUE DATE: 16-03-2020 | REVISE DATE: 16-03-2022 | REVISION: 14 | PAGE NO: 1 of 4 |
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|  | Document Type: | Safety Data Sheet Conforms to ISO 11014:2009 |
| | Title: | INNOVEX™ |

1. Identification of the product and Company Identification

| | | |
|-----------------------------------|-------------------------------|-------------------------------------|
| Product Name | INNOVEX™ – Types 60, 70 & 100 | Manufactured/ supplied by |
| Product use | Bulk base emulsion | BME |
| Synonyms | INNOVEX™ | A division of Omnia Group (Pty) Ltd |
| Chemical Formula | Not applicable | P.O. Box 70040 |
| Emergency telephone number | (+27) 11 706 3398 | Bryanston |
| | | South Africa 2021 |
| | | Tel: 27 11 7098791 |
| | | Fax: 27 11 4633023 |

2. Composition/information on ingredients

Substance/preparation:

| Chemical name* | CAS No | % | EC Number | Classification |
|----------------------------|------------|------|-----------|--|
| Europe Ammonium Nitrate | 6484-52-2 | < 60 | 229-347-8 | O; R8 R5 Xn; R22 Xi; R36/38 |
| Calcium Nitrate | 10124-37-5 | < 30 | 233-332-1 | O; R8 Xn; R22 Xi; R36/38 R: 22/38 |
| Fuel Oil Composition | | < 10 | | R: 10 |

*See Section 16 for the full text of the R Phrases declared above

3. Hazards identification

| | |
|--------------------------------|--|
| Classification | O: R5; R8; R10 Xn: R22 Xi: R36/38 R: 44 |
| Effects and symptoms: | May cause irritation to sensitive skin. Harmful if swallowed. May cause irritation in case of eye contact. |
| Aggravating conditions: | Not applicable |

See toxicological information (section 11)

4. First aid measures

| | |
|-----------------------------------|---|
| Inhalation | : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention. |
| Ingestion | : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention. |
| Skin contact | : In case of skin contact. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. |
| Eye contact | : Check for and remove any contact lenses. In case of contact immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention. |
| Note to physician | : No specific treatment, treat symptomatically. |
| Protection of first-aiders | : No additional remarks. |

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5. Fire-fighting measures

| | |
|---|---|
| Extinguishing media | |
| Suitable | : Do not attempt to fight INNOVEX™ fire. |
| Not suitable | : No additional remarks. |
| Unusual fire/explosion hazards | : If a transport vehicle or surrounding combustible material burns, extinguish. |
| Special fire fighting procedures | : IF FIRE IS OUT OF CONTROL or has spread to the INNOVEX™, this could result in detonation, DO NOT FIGHT FIRE. Withdraw from the fire and let it burn itself out. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. |
| Protection of fire fighters | : Wear overalls, gloves, boots and eye protection as well as self contained breathing apparatus. |

6. Accidental release measures

| | |
|----------------------------------|--|
| Personal precautions | : Overalls buttoned to the neck and wrist. Rubber boots. Gloves. Eye protection. |
| Environmental precautions | : For small spills, make use of the oil spill kit to remove the spilled material. For large spills, block source of spill and contain spill. Prevent entry into sewers, basements or confined areas. Use soil only to dyke if needed to stop the product from flowing. <u>Do not use</u> soil or dry earth to cover the spill. Use saw dust or an absorbent as per regulation to absorb the spill. Use appropriate tools to collect into drums or suitable containers. Dispose waste using a professional registered waste disposal company. |

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

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|----------------------------|---|
| Handling | : Keep away from sources of ignition. Keep away from incompatibles, such as combustible material, organic materials, alkalis and acids. |
| Storage | : Store in steel tanks or containers. DO NOT store adjacent to any potentially extreme source of heat or accumulation of combustible material. No open flames or smoking allowed in the vicinity. |
| Packaging materials | : Store in steel tanks. |
| Recommended use | : Store in separate containers/tanks. |
| Not suitable | : No additional remarks |

8. Exposure controls/personal protection

| | |
|-----------------------------|--|
| Engineering measures | : Provide exhaust ventilation or other engineering controls to keep in the airborne concentrations of vapours below their respective occupational exposure limits. |
| Hygiene measures | : Wash hands after handling compounds and before eating, smoking, using ablution facilities and at the end of the day. |

Occupational exposure limits:

| Ingredient name | Occupational exposure limits |
|--|---|
| No additional information | No additional information |
| Recommended monitoring procedures | : No additional information. |
| Personal protective equipment | |
| Respiratory system | : A respirator is not required under normal and intended conditions of product use. |
| Skin and body | : Overalls buttoned to the neck and wrist. |
| Hands | : PVC gloves or similar suitable gloves. |
| Eyes | : Eye protection. |

9. Physical and chemical properties

| | |
|-----------------------------|--------------------------------|
| Physical state | : Viscous black emulsion |
| Colour | : Black |
| Odour | : Fuel like |
| Flammability | : Flammable |
| Density | : 1.45 – 1.50 g/ml |
| Solubility - Water | : Insoluble |
| Solubility – Solvent | : Soluble in most hydrocarbons |
| pH | : Acidic |

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9. Physical and chemical properties Continued:

| | | |
|---|---|--|
| Fire hazards in presence of various substances | : | Contact with combustible or organic material may cause fire. |
| Explosive properties | : | Non-explosive (Risk of explosion if heated under confinement). |
| Viscosity | : | 30 000 – 50 000 cP |

10. Stability and reactivity

| | | |
|--|---|--|
| Stability | : | Product is stable. As a standalone product, Innovex™ may be used in ground temperatures up to 65°C. It may not be used in reactive ground or hot holes. |
| Conditions to avoid | : | The material becomes explosive after addition of the separate sensitizing material just before pouring down the blast hole. Avoid oxidising agents, combustible material, organic material, acids, alkali's, reducing agents and metals. |
| Hazardous decomposition product | : | Nitrous oxides and CO may be generated during detonation. Under normal storage conditions no hazardous decomposition product occurs. |
| Hazardous polymerisation | : | Will not occur. |

11. Toxicological information

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|------------------|---|--|
| Eyes | : | Hazardous in case of eye contact (irritant) |
| Skin | : | Hazardous in case of skin contact (irritant). Skin inflammation is characterised by itching, scaling, reddening or occasionally blistering |
| Ingestion | : | May cause burns to mouth, throat and stomach |

12. Ecological information

| | | |
|--------------------------|---|---|
| Aquatic toxicity: | | |
| Fish | : | Extreme in high concentrations of nitrates affect fish and oil reduces oxygen in water. |
| Daphnia | : | As above. |

13. Disposal considerations

| | | |
|-----------------------------|---|--|
| Methods of disposal | : | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
| Waste classification | : | Hazardous waste |

14. Transport information

| Regulatory information | UN Number | Name and description | Class | UN Packaging Group | Additional information |
|------------------------|-----------|---------------------------------|-------|--------------------|---|
| ADR/RID Class | 3375 | OXIDISING Material (Liquid) N.O | 5.1 | II | Limited quantity |
| ADN Class | 3375 | OXIDISING Material (Liquid) N.O | 5.1 | II | CEFIC Tremcard |
| IMDG Class | 3375 | OXIDISING Material (Liquid) N.O | 5.1 | II | Emergency schedules |
| IATA-DGR Class | 3375 | OXIDISING Material (Liquid) N.O | 5.1 | II | AIR: Forbidden RAIL: Applicable Hazchem and specific requirements of the relevant transport authority. Both Rail and Road must comply with: Hazardous Substance Act No 15 of 1973 and the OHSAct specifically the Regulations for Hazardous Chemical Substances SEA: As per UN recommendation and the IMDG Code. INNOVEX™ 100 conforms to Series 8 test requirement |

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15. Regulatory Information

EU Regulation

Hazard symbols

Indicator of Danger:

Risk phrases

: R5 – Heating may cause explosion
 : R8 - Contact with combustible material may cause fire
 R10 - Flammable
 R 22 – Harmful if swallowed
 R36 – Irritating to eyes
 : R38 - Irritating to skin
 R44 – Risk of explosion if heated under confinement

Safety phrases

: S15 – Keep away from heat
 : S17 – Keep away from combustibles
 : S24/25 – Avoid contact with skin and eyes

Product use

: -

16. Other information

Full text of R-Phrases with No:

R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition
 R5 Heating may cause an explosion
 R8 Contact with combustible material may cause fire
 R9 Explosive when mixed with combustible material
 R10 Flammable
 R61 May cause harm to the unborn child
 R62 Possible risk of impaired fertility
 R20/22 Harmful by inhalation and if swallowed
 R22 Harmful if swallowed
 R36/38 Irritating to eyes and skin
 R33 Danger of cumulative effects
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Text of classifications: Appearing in Section 2

E - Explosives
 O - Oxidising
 F - Highly flammable
 Repr. Cat. 1 – Toxic for reproduction Category 1
 Repr. Cat. 3 – Toxic for reproduction Category 3
 Xn – Harmful
 Xi – Irritant
 N – Dangerous for the environment

History

Date of printing : 16-03-2020
 Date of issue : 16-03-2020
 Date of previous issue : 28-08-2018
 Recommended by : C Oussoren – LAB Supervisor
 Authorised by : DH Voogt – General Manager – Production and Logistics

Remarks:

This SDS summarises, at the date of issue, our best knowledge of health and safety hazard information of the product, and in particular how to safely handle the product in the workplace. As **BME** cannot control the use and handling of the product, each user must review the SDS in the context of how the user intends to handle and use the product in the workplace.