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| **IntelliBond Vital 3 BEEF** |
| **Safety Data Sheet**  According to U.S.A. Federal Hazcom 2012 | |
| **1. Identification** | |
| * 1. **Product identifier**   Code:  Product name **IntelliBond Vital 3 BEEF**   * 1. **Relevant identified uses of the substance or mixture and uses advised against**   Intended use **For use in animal feed**   * 1. **Details of the supplier of the safety data sheet**   Name **Micronutrients USA LLC**  **DBA Selko USA**  Full address **1550 Research Way**  District and Country **46231 Indianapolis USA**  **Tel. +1 (317) 486 5880**  **Fax +1 (317) 486-5888**   * 1. **Emergency telephone number**   For urgent inquiries refer to **For dangerous goods incident spill, leak, fire, exposure or accident call**  **CHEMTREC day or night. Within the USA and Canada: 1 (800) 424-9300 Outside the USA and Canada: 1 (703) 527-3887 (collect calls accepted)**  **NVIC within the Netherlands +31 30 274 888 (for healthcare professionals only)** | |
| **2. Hazards identification** | |
| **2.1. Classification of the substance or mixture**  The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.  Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.  Classification and Hazard Statement  Acute toxicity, category 4 Harmful if swallowed.  Acute toxicity, category 4 Harmful if inhaled.  Specific target organ toxicity - single exposure, May cause damage to organs.  category 2  Hazard pictograms:    Signal words: Danger Hazard statements:  **H302+H332** Harmful if swallowed or if inhaled.  **H371** May cause damage to organs.  Precautionary statements:  Prevention:  **P260** Do not breathe dust / fume / gas / mist / vapors / spray.  **P270** Do not eat, drink or smoke when using this product.  **P271** Use only outdoors or in a well-ventilated area.  **P264** Wash hands thoroughly after handling.  Response:  **P308+P311** IF exposed or concerned: Call a POISON CENTER / doctor / . . .  **P312** Call a POISON CENTER / doctor / . . . / if you feel unwell.  **P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing.  EPY 9.11.3 - SDS 1004.13 | |



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| **2. Hazards identification** ... / >>  **P330** Rinse mouth.  **P301+P312** IF SWALLOWED: Call a POISON CENTER / doctor / . . . / if you feel unwell.  Storage:  **P405** Store locked up.  Disposal:  **P501** Dispose of contents/container to an approved waste disposal facility.  **2.2. Other hazards**  Information not available | |
| **3. Composition/information on ingredients** | |
| **3.2. Mixtures**  Contains:  Identification  **Classification:**  **Manganese Hydroxychloride**  **Specific target organ toxicity - single exposure, category 2 H371**  **Basic Copper Chloride**  **Acute toxicity, category 4 H302, Acute toxicity, category 4 H332,**   |  |  |  |  | | --- | --- | --- | --- | | Ingredient Name | CAS Number | EC Number | Percent of Total Weight | | Zinc Hydroxychloride | 12137-79-2 | Not Applicable | 35.9 – 45.9 | | Manganese Hydroxychloride | 39438-40-9 |  | 23.8 – 33.8 | | Basic Copper Chloride | 1332-65-6 | 215-572-9 | 8.4 – 18.4 | | Inerts |  |  | Balance |   The full wording of hazard (H) phrases is given in section 16 of the sheet. | |
| **4. First-aid measures** | |
| * 1. **Description of first aid measures**   EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.  SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.  INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately. INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorized by a doctor.   * 1. **Most important symptoms and effects, both acute and delayed**   Specific information on symptoms and effects caused by the product are unknown.   * 1. **Indication of any immediate medical attention and special treatment needed**   Information not available | |
| **5. Fire-fighting measures** | |
| * 1. **Extinguishing media**   SUITABLE EXTINGUISHING EQUIPMENT  The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray. UNSUITABLE EXTINGUISHING EQUIPMENT  None in particular.   * 1. **Special hazards arising from the substance or mixture**   HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE  Do not breathe combustion products. The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.  EPY 9.11.3 - SDS 1004.13 | |



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| **5. Fire-fighting measures** ... / >>  **5.3. Advice for firefighters**  GENERAL INFORMATION  Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.  SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS  Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137). | |
| **6. Accidental release measures** | |
| * 1. **Personal precautions, protective equipment and emergency procedures**   If there are no contraindications, spray powder with water to prevent the formation of dust.  Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.   * 1. **Environmental precautions**   The product must not penetrate into the sewer system or come into contact with surface water or ground water.   * 1. **Methods and material for containment and cleaning up**   Collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues.  Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.   * 1. **Reference to other sections**   Any information on personal protection and disposal is given in sections 8 and 13. | |
| **7. Handling and storage** | |
| * 1. **Precautions for safe handling**   Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.   * 1. **Conditions for safe storage, including any incompatibilities**   Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.   * 1. **Specific end use(s)**   Information not available | |
| **8. Exposure controls/personal protection** | |
| * 1. **Control parameters**   During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate not otherwise classified (PNOC respirable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment.   * 1. **Exposure controls**   As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.  HAND PROTECTION  In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (OSHA 29 CFR 1910.138). Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.  EPY 9.11.3 - SDS 1004.13 | |



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| **8. Exposure controls/personal protection** ... / >>  SKIN PROTECTIONWear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.  EYE PROTECTION  Wear airtight protective goggles (OSHA 29 CFR 1910.133). RESPIRATORY PROTECTION  Use a NIOSH certified filtering facemask (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134) or equivalent device, whose class and effective need, must be defined according to the outcome of risk assessment.  ENVIRONMENTAL EXPOSURE CONTROLS  The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. | |
| **9. Physical and chemical properties** | |
| * 1. **Information on basic physical and chemical properties**   **Properties Value Information**  Appearance powder  Colour Brown  Odour no  Odour threshold Not available  pH Not available  Melting point / freezing point Not available  Initial boiling point Not applicable  Boiling range Not available  Flash point Not applicable  Evaporation Rate Not available  Flammability of solids and gases Not available  Lower inflammability limit Not available  Upper inflammability limit Not available  Lower explosive limit Not available  Upper explosive limit Not available  Vapour pressure Not available  Vapour density Not available  Relative density Not available  Solubility Not available  Partition coefficient: n-octanol/water Not available  Auto-ignition temperature Not available  Decomposition temperature Not available  Viscosity Not available  Explosive properties Not available  Oxidising properties Not available   * 1. **Other information**   Information not available | |
| **10. Stability and reactivity** | |
| * 1. **Reactivity**   There are no particular risks of reaction with other substances in normal conditions of use.   * 1. **Chemical stability**   The product is stable in normal conditions of use and storage.   * 1. **Possibility of hazardous reactions**   The powders are potentially explosive when mixed with air.   * 1. **Conditions to avoid**   Avoid environmental dust build-up.   * 1. **Incompatible materials**   Information not available  EPY 9.11.3 - SDS 1004.13 | |



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| **10. Stability and reactivity** ... / >>  **10.6. Hazardous decomposition products**  Information not available | |
| **11. Toxicological information** | |
| In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.  It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.  **11.1. Information on toxicological effects**  Metabolism, toxicokinetics, mechanism of action and other information Information not available  Information on likely routes of exposure Information not available  Delayed and immediate effects as well as chronic effects from short and long-term exposure Information not available  Interactive effects Information not available ACUTE TOXICITY  Acute toxicity, category 4. Harmful if swallowed or if inhaled. SKIN CORROSION / IRRITATION  Does not meet the classification criteria for this hazard class SERIOUS EYE DAMAGE / IRRITATION  Does not meet the classification criteria for this hazard class RESPIRATORY OR SKIN SENSITISATION  Does not meet the classification criteria for this hazard class GERM CELL MUTAGENICITY  Does not meet the classification criteria for this hazard class CARCINOGENICITY  Does not meet the classification criteria for this hazard class  REPRODUCTIVE TOXICITY  Does not meet the classification criteria for this hazard class STOT - SINGLE EXPOSURE  May cause damage to organs STOT - REPEATED EXPOSURE  Does not meet the classification criteria for this hazard class ASPIRATION HAZARD  Does not meet the classification criteria for this hazard class  EPY 9.11.3 - SDS 1004.13 | |



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| **12. Ecological information** | |
| No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.   * 1. **Toxicity**   Information not available   * 1. **Persistence and degradability**   Information not available   * 1. **Bioaccumulative potential**   Information not available   * 1. **Mobility in soil**   Information not available   * 1. **Results of PBT and vPvB assessment**   On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.   * 1. **Other adverse effects**   Information not available | |
| **13. Disposal considerations** | |
| **13.1. Waste treatment methods**  Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  Disposal must be performed through an authorized waste management firm, in compliance with national and local regulations. CONTAMINATED PACKAGING  Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations. | |
| **14. Transport information** | |
| The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.   * 1. **UN number**   Not applicable   * 1. **UN proper shipping name**   Not applicable   * 1. **Transport hazard class(es)**   Not applicable   * 1. **Packing group**   Not applicable  EPY 9.11.3 - SDS 1004.13 | |



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| 1. **Transport information** ... / >>    1. **Environmental hazards**   Not applicable   * 1. **Special precautions for user**   Not applicable   * 1. **Transport in bulk according to Annex II of Marpol and the IBC Code**   Information not relevant | |
| **15. Regulatory information** | |
| **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**  U.S. Federal Regulations  Clean Air Act Section 112(b):  No component(s) listed.  Clean Air Act Section 602 Class I Substances:  No component(s) listed.  Clean Air Act Section 602 Class II Substances:  No component(s) listed.  Clean Water Act – Priority Pollutants:  No component(s) listed.  Clean Water Act – Toxic Pollutants:  No component(s) listed.  DEA List I Chemicals (Precursor Chemicals):  No component(s) listed.  DEA List II Chemicals (Essential Chemicals):  No component(s) listed.  EPA List of Lists:  313 Category Code:  No component(s) listed.  EPCRA 302 EHS TPQ:  No component(s) listed.  EPCRA 304 EHS RQ:  No component(s) listed.  CERCLA RQ:  No component(s) listed.  EPCRA 313 TRI:  No component(s) listed.  RCRA Code:  No component(s) listed.  CAA 112 (r) RMP TQ:  No component(s) listed.  State Regulations  EPY 9.11.3 - SDS 1004.13 | |



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| **15. Regulatory information** ... / >>  New York:  No component(s) listed.  California:  No component(s) listed.  Proposition 65:  This product does not contain any substances known to the State of California to cause cancer, reproductive harm, or birth defects.  International Regulations  Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012: None  Substances subject to the Rotterdam Convention: None  Substances subject to the Stockholm Convention: None  Candadian WHMIS Information not available | |
| **16. Other information** | |
| Text of hazard (H) indications mentioned in section 2-3 of the sheet:  **H302** Harmful if swallowed.  **H302+H332** Harmful if swallowed or if inhaled.  **H332** Harmful if inhaled.  **H371** May cause damage to organs.  **H413** May cause long lasting harmful effects to aquatic life.  LEGEND:   * 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code * ADR: European Agreement concerning the carriage of Dangerous goods by Road * CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®) * CAS NUMBER: Chemical Abstract Service Number * CE50: Effective concentration (required to induce a 50% effect) * CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act) * CLP: EC Regulation 1272/2008 * DEA: Drug Enforcement Administration * EmS: Emergency Schedule * EPA: US Environmental Protection Agency * EPCRA: Emergency Planning and Community Right-to Know Act * EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code) * EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code) * EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code) * GHS: Globally Harmonized System of classification and labeling of chemicals * IATA DGR: International Air Transport Association Dangerous Goods Regulation * IC50: Immobilization Concentration 50% * IMDG: International Maritime Code for dangerous goods * IMO: International Maritime Organization * LC50: Lethal Concentration 50% * LD50: Lethal dose 50% * OEL: Occupational Exposure Level * PEL: Predicted exposure level * RCRA Code: Resource Conservation and Recovery Act Code * REL: Recommended exposure limit * RID: Regulation concerning the international transport of dangerous goods by train * TLV: Threshold Limit Value   EPY 9.11.3 - SDS 1004.13 | |



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| **16. Other information** ... / >>   * TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.- TSCA: Toxic Substances Control Act * TWA STEL: Short-term exposure limit * TWA: Time-weighted average exposure limit * VOC: Volatile organic Compounds * WHMIS: Workplace Hazardous Materials Information System.   GENERAL BIBLIOGRAPHY:   * GHS rev. 3 * The Merck Index. 10th Edition * Handling Chemical Safety * Niosh - Registry of Toxic Effects of Chemical Substances * INRS - Fiche Toxicologique (toxicological sheet) * Patty - Industrial Hygiene and Toxicology * N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition * ECHA website * Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy * 6 NYCRR part 597 * Cal/OSHA website * California Safe Drinking Water and Toxic Enforcement Act * EPA website * Hazard Comunication Standard (HCS 2012) * IARC website * List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act * Massachussetts 105 CMR Department of public health 670.000: "Right to Know" * Minensota Chapter 5206 Departemnt Of Labor and Industry Hazardous Substances, Employee "Right to Know". * New Jersey Worker and Community Right to know Act N.J.S.A. * NTP. 2011. Report on Carcinogens, 12th Edition. * OSHA website * Pennsylvania, Hazardous Substance List, Chapter 323   Note for users:  The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.  This document must not be regarded as a guarantee on any specific product property.  The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.  Provide appointed staff with adequate training on how to use chemical products.  Product’s classification is based on the criteria set out in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless otherwise indicated in sections 11 and 12.  The data for evaluation of chemical-physical properties are reported in section 9.  Changes to previous review:  The following sections were modified:  EPY 9.11.3 - SDS 1004.13 | |

