

# DAR PRO 50

## TYPICAL ANALYSIS

|                      |                             |
|----------------------|-----------------------------|
| Crude Protein        | 50.00%                      |
| Crude Fat            | 11.00%                      |
| Crude Fiber          | 2.50%                       |
| Ash                  | 26.00%                      |
| Moisture             | 4.00%                       |
| Grind                | 99% thru #10                |
| Color                | Brown                       |
| Metabolizable Energy | 1,223 Kcal/lb=2,690 Kcal/kg |

## MINERALS AND VITAMINS

|                       |             |
|-----------------------|-------------|
| Calcium               | 8.00%       |
| Phosphorous           | 4.00%       |
| Available Phosphorous | 4.00%       |
| Salt Equivalent       | 2.50%       |
| Sodium                | 1.00%       |
| Chloride              | 1.50%       |
| Potassium             | 0.80%       |
| Choline               | 1,980 mg/kg |
| Magnesium             | 1.00%       |

## AMINO ACID PROFILE

|                |       |
|----------------|-------|
| Aspartic Acid  | 4.16% |
| Threonine      | 1.69% |
| Serine         | 2.02% |
| Glutamic Acid  | 6.85% |
| Proline        | 3.98% |
| Glycine        | 7.09% |
| Alanine        | 4.23% |
| Cystine        | 0.56% |
| Methionine     | 0.71% |
| Valine         | 2.22% |
| Isoleucine     | 1.26% |
| Leucine        | 3.37% |
| Tyrosine       | 1.08% |
| Phenylalanine  | 1.72% |
| Histidine      | 1.17% |
| Lysine         | 2.52% |
| TSAA           | 1.27% |
| Ammonia        | 0.60% |
| Arginine       | 3.62% |
| Tryptophan     | 0.33% |
| Taurine        | 0.10% |
| Hydroxyproline | 2.62% |

Analysis are updated periodically and may vary slightly from previous versions.

Approved plant of:

- Animal Protein Producers Institute (APPI) Code of Practice Voluntary Salmonella Reduction Program
- Food & Drug Administration (FDA) Registered
- Animal & Plant Health Inspection Service (APHIS)
- Hazard & Critical Control Point (HACCP)

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Transforming sustainable resources into  
functional and nutritional solutions

**DAR PRO**  
INGREDIENTS

**DARLING**  
INGREDIENTS INC.

## MATERIAL SAFETY DATA SHEET: DAR PRO 50

**Preparer's Name:** Darling Ingredients Inc. / Griffin Industries LLC

**Date Prepared:** July 10, 2012

**Synonyms:**

**CAS#:** N/A

| <b>Section I: General Information</b> |   |   |   |                                  |
|---------------------------------------|---|---|---|----------------------------------|
| Manufacturer's Name:                  | Darling Ingredients Inc.  | Griffin Industries LLC                        | Phone Numbers:                              |                                  |
| Address:                              | 251 O'Connor Ridge Blvd.<br>Suite 300<br>Irving, TX 75038       | 4221 Alexandria Pike<br>Cold Spring, KY 41076 | General Information &<br>Emergency Contact: | (515) 289-3718<br>(859) 472-7363 |
| Substance:                            | Dehydrated Beef and Pork By-products                            |   |   |                                  |
| Chemical Family:                      | Protein Supplement with associated fatty and mineral components |   |   |                                  |
| Molecular Formula:                    | N/A   |   |   |                                  |
| Molecular Weight:                     | N/A   |   |   |                                  |
| CAS Number:                           | N/A   |   |   |                                  |

| <b>Section II: Hazardous Ingredients</b> |   |
|--|---|
| Hazardous Liquids, Solids, or Gases:     | This product contains no Hazardous Components as described in the Hazard Communication Standard. This product has trade names of Meat Meal, Meat By-Product Meal, Meat & Bone Meal. This product has components of dehydrated beef and pork protein and bone at 100 percent dehydrated blood protein. |
| Other Contaminants:                      | None  |
| Exposure Limits:                         | N/A   |

| <b>Section III: Physical Data</b>        |  |
|--|--|
| Boiling Point:                           | Decomposes   |
| Vapor Pressure:                          | N/A  |
| Vapor Density:                           | N/A  |
| Solubility in Water:                     | Insoluble  |
| Appearance and Odor:                     | Light tan to medium brown solid, characteristic odor |
| Specific Gravity (H <sub>2</sub> O = 1): | 0.50 average   |
| Melting Point:                           | Decomposes   |
| Percent Volatile by Volume:              | Not determined                                       |
| Evaporation Rate:                        | 0  |
| Butyl Acetate:                           | 1  |

| <b>Section IV: Fire and Explosion Hazard Data</b> |  |
|---|--|
| Flash Point:                                      | 460 F, Open Cup (fat content only)                               |
| Flammable Limits:                                 | N/A  |
| LEL:  | N/A  |
| UEL:  | N/A  |
| Extinguishing Media:                              | Type A or B  |
| Special Fire Fighting Procedures:                 | None   |
| Unusual Fire and Explosion Hazards:               | Dust accumulation in enclosed space may present explosion hazard |

| <b>Section V: Health Hazard Data</b> |   |
|--------------------------------------|---|
| Emergency and First Aid Procedures:  | Wash Well<br><b>Ingestion:</b> N/A<br><b>Inhalation:</b> N/A<br><b>Eye Contact:</b> N/A<br><b>Skin Contact:</b> N/A |
| OSHA Regulated                       | No  |

| Section VI: Reactivity Data           |                |
|---------------------------------------|----------------|
| Unstable or Stable:                   | Stable         |
| Incompatibility (Materials to Avoid): | None           |
| Hazardous Decomposition Products:     | None           |
| Hazardous Polymerization:             | Will not occur |
| Conditions to avoid:                  | None           |

| Section VII: Spill or Leak Procedures                      |   |
|--|---|
| Steps to be taken in case material is released or spilled: | Sweep up spilled meal and dispose of in Sanitary Landfill, or contact DAR PRO Solutions concerning reprocessing.                      |
| Waste disposal method:                                     | Send to Sanitary Landfill or contact DAR PRO Solutions as above. Dispose in accordance with all local, state and federal regulations. |
| Precautions to be taken in handling and storing:           | Beef meat must be labeled with the caution statement: <b>Do Not Feed to Cattle or Other Ruminants.</b>                                |
| Other precautions:   | None  |

| Section VIII: Special Protection Information |   |
|--|---|
| Respiratory Protection:                      | Dust mask in enclosed space                         |
| Ventilation:                                 | Ventilate confined spaces before entering           |
| Protective Gloves:                           | Recommended   |
| Eye Protection:                              | Recommended   |
| Other Protective Equipment:                  | N/A   |
| Work/Hygienic Practices:                     | After handling wash hands with soap and warm water. |

The information provided is believed to be accurate and represents the best information currently available. However we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.