

## TYPICAL ANALYSIS

Crude Protein	72.00%
Crude Fat	10.00%
Crude Fiber	2.00%
Ash	15.00%
Moisture	6.00%
Metabolizable Energy	1,456 Kcal/lb=3,204 Kcal/kg
Digestibility	85.00%
TDN	76.00%
NEL	0.77
UIP	70.00%

## MINERALS AND VITAMINS

Calcium	4.00%
Phosphorous	2.00%
Available Phosphorous	2.00%
Salt	1.50%

## AMINO ACID PROFILE

Aspartic Acid	6.63%
Threonine	3.16%
Serine	6.65%
Glutamic Acid	6.86%
Proline	5.41%
Glycine	8.50%
Alanine	7.34%
Cystine	1.89%
Methionine	1.00%
Valine	6.62%
Isoleucine	2.14%
Leucine	7.62%
Tyrosine	1.52%
Phenylalanine	3.32%
Histidine	2.20%
Lysine	3.50%
TSAA	2.89%
Arginine	3.00%
Tryptophan	0.58%

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

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Transforming sustainable resources into  
functional and nutritional solutions

**DAR PRO**  
INGREDIENTS

**DARLING**  
INGREDIENTS INC.

**MATERIAL SAFETY DATA SHEET: BI-PAS®**

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

**Date Prepared:** July 10, 2012

**Synonyms:**

**CAS#:** N/A

Section I: General Information				
Manufacturer's Name:	Darling Ingredients Inc.	Griffin Industries LLC	Phone Numbers:	
Address:	251 O'Connor Ridge Blvd. Suite 300 Irving, TX 75038	4221 Alexandria Pike Cold Spring, KY 41076	General Information & Emergency Contact:	(515) 289-3718 (859) 472-7363
Substance:	Blended Dehydrated Pork and Poultry By-products			
Chemical Family:	Proteinaceous Organic Animal			
Molecular Formula:	N/A			
Molecular Weight:	N/A			
CAS Number:	N/A			

Section II: Hazardous Ingredients	
Hazardous Liquids, Solids, or Gases:	This product contains no Hazardous Components as described in the Hazard Communication Standard. This product has trade name of Bi-Pas®. This product has components of dehydrated pork and poultry by-products at 100 percent.
Other Contaminants:	None
Exposure Limits:	N/A

Section III: Physical Data	
Boiling Point:	Decomposes
Vapor Pressure:	N/A
Vapor Density:	N/A
Solubility in Water:	Partly Soluble to Insoluble
Appearance and Odor:	Light tan to dark 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

Section IV: Fire and Explosion Hazard Data	
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

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

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

<b>Section VII: Spill or Leak Procedures</b>	
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:	None
Other precautions:	None

<b>Section VIII: Special Protection Information</b>	
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.