Technical Process Bulletin
BONDERITE L-GP 2404 ACHESON
GRAPHITE DISPERSION IN SOLVENT
(KNOWN AS DAG 2404)

Issued 7/18/2013

Description

BONDERITE L-GP 2404 ACHESON (known as Dag 2404) is a high quality lubricant additive consisting of superfine graphite particles in mineral spirits. Lubricants diluted with BONDERITE L-GP 2404 ACHESON (known as Dag 2404) are able to form a highly effective graphite film on metal surfaces at temperatures up to 482°C (900°F). It is particularly successful in conveyor chain operation because it penetrates and forms a solid lubricating film over the entire bearing surface as the carrier vaporizes.

Specific advantages offered by lubricants diluted with BONDERITE L-GP 2404 ACHESON (known as Dag 2404) include:
- Reduced metal-to metal contact
- Nonfreezable
- Effectiveness at extreme temperatures
- Minimum pre-treatment
- High Lubricity
- Easy application
- Extremely low residue

BONDERITE L-GP 2404 ACHESON (known as Dag 2404) is noted for extremely low residue formation when mixed with a quality diluent.

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<th>FEATURES</th>
<th>BENEFITS</th>
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<tr>
<td>Stable colloidal suspension of graphite</td>
<td>Minimal mixing costs for blending into your finished lubricant</td>
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<td>Fine particle size distribution</td>
<td>Provides cost-effective usage in finished lubricant to provide superior lubrication performance, consumer confidence and repeat sales</td>
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<tr>
<td>Lubricating, low friction graphite particles</td>
<td>Superior lubrication extends equipment life, reduces maintenance costs and lubricant intervals</td>
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<tr>
<td>Robust chemical and base oil compatibility</td>
<td>Minimizes formulation costs for achieving stable and effective product</td>
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TYPICAL APPLICATIONS
- Conveyor chains
- Hot zone bearing lubrication
- Kiln car wheel bearings
- Penetrating oils
- Automotive upper valv assembly additive

The thin graphitic film produced by BONDERITE L-GP 2404 ACHESON (known as Dag 2404) provides near-perfect lubrication for line-belt conveyors used in glass production operations to carry hot bottles to Lehr ovens. The graphite film allows relative motion between the bottle and the conveyor without the formation of "crizzlies" or other markings.

Note: When diluted 1:4 (product:diluent) by weight with a mineral seal oil and continually applied by drop apparatus,
BONDERITE L-GP 2404 ACHESON (known as Dag 2404) eliminated frequent chain breakage in an enclosed heat-treat oven by providing the necessary lubrication for the linkage.

Physical Properties:
(as supplied)  
Lubricating solid: processed micrographite  
Carrier: mineral spirits  
Viscosit: 11-14 seconds, #4 Ford cup at 25°C (77°F)  
Diluent: mineral spirits, Stoddard solvents or similar hydrocarbons  
Solid content: 10%  
: 10 minimum  
Particle size: median 2-4 microns by volume  
Density: 0.852 kg/l (7.1 lb/gal) @ 25°C (77°F)  
Flash point: 43°C (110°F)  
Color: Black

Method of Use:

Surface Preparation
When evaluating BONDERITE L-GP 2404 ACHESON (known as Dag 2404) on a bearing application, the bearing surface should be thoroughly cleaned by chemical rinse or any practical method available. The graphite particles must come in contact with the metal for good adhesion and effective lubrication. If cleaning is not feasible, several liberal applications are recommended during the initial break-in period.

Dilution
BONDERITE L-GP 2404 ACHESON (known as Dag 2404) can be diluted with any compatible petroleum product, such as: conventional oils, kerosene, mineral seal oil, mineral spirits, petroleum oil, and Stoddard solvent.

The diluent and dilution ratios are usually finalized on the job. However, typical recommendations for initial evaluations are:

<table>
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<th>Application</th>
<th>Weight Ratio (product:diluent)</th>
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<tr>
<td>Conveyor Chain (continuous application)</td>
<td>Kerosene or Mineral Seal Oil 1:50</td>
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<tr>
<td>Conveyor Chain (intermittent application)</td>
<td>Kerosene or Mineral Seal Oil 1:20</td>
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<tr>
<td>Kiln Car Wheel Bearings</td>
<td>Kerosene 1:20</td>
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Application
Agitate or stir BONDERITE L-GP 2404 ACHESON (known as Dag 2404) to a uniform consistency before diluting and again just prior to application. BONDERITE L-GP 2404 ACHESON (known as Dag 2404) can then be applied by spray, brush, or drip, whichever method is suitable for the job. Overspray and spills are easily cleaned up with detergent solution.
Storage/Handling:

Keep container closed when not in use to avoid contamination. See Henkel Material Safety Data Sheet for proper first aid instructions. Shelf life is 12 months from date of qualification under original seal.

Application/Assistance:

Henkel's Application Specialists are available to assist you in production start-up with BONDERITE L-GP 2404 ACHESON (known as Dag 2404). Visit our website www.henkelna.com/metals for more information and for the Henkel global location nearest you.

Health and Safety:

Please consult Material Safety Data Sheet