

# Ultrapure High-Reliability Extruded Solder

Solder for Lead-bearing and Lead-free Alloys

## Product Description

For soldering applications which require maximum reliability of solder joints, especially for surface mounted components, only solder of the highest purity is acceptable. Kester does not make any vague claims of outstanding solder purity. Complete analysis of Kester bar and wire solders prove that every batch conforms to the strictest quality control standards in the solder industry.

## Maximum Allowed Impurities

Ultrapure meets the requirements of current industry standards for allowable impurity requirements.

Element	J-STD-006C	Kester Ultrapure (Lead-Free)	Kester Ultrapure (Leaded)
Tin	Component	Balance	63.500
Lead	0.070 or Component	0.070	Balance
Antimony	0.200 or Component	0.200	0.200
Copper	0.080 or Component	0.080	0.080
Gold	0.050	0.050	0.050
Aluminum	0.005	0.005	0.005
Cadmium	0.002	0.002	0.002
Zinc	0.003	0.003	0.003
Silver	0.100 or Component	0.100	0.100
Bismuth	0.100	0.100	0.100
Arsenic	0.030	0.030	0.030
Iron	0.020	0.020	0.020
Indium	0.100	0.100	0.100
Nickel	0.010	0.010	0.010

Ultrapure will conform to these requirements when purchased directly or through stocking distributors. Kester is the only manufacturer of Ultrapure quality solder. Ultrapure conforms to the requirements of J-STD-006C formerly QQ-S-571F. DOD-STD-2000-1A (Soldering Technology, High Quality/High Reliability) states that it is the responsibility of the manufacturer to select those materials and processes that will produce acceptable high quality/high reliability products. Except where otherwise indicated, the component elements in each alloy shall deviate

from their nominal mass percent- age by not > 0.10% of the alloy mass when their nominal percentage is  $\leq 1.0\%$ ; by not > 0.20% of the alloy mass when their nominal percentage is > 1.0% to  $\leq 5.0\%$  or by not > 0.50% when their nominal percentage is > 5.0%.

## Availability Alloy

Ultrapure meets the requirements of current industry standards for allowable impurity requirements. Below is a list of typical leaded and lead-free alloys produced by Kester in bar and wire form. Other alloys can be produced and follow the same requirements.

Leaded Alloys	Meting Point
Sn62Pb36Ag2	179 to 183 °C (354 to 361 °F)
Sn63Pb37	183 °C (361 °F)
Sn60Pb40	183 to 190 °C (361 to 374 °F)
Sn10Pb88Ag2	268 to 299 °C (514 to 570 °F)
Sn5Pb92.5Ag2.5	280 °C (536 °F)

Lead-Free Alloys	Meting Point
Sn96.5Ag3.0Cu0.5	217 to 220 °C (423 to 428 °F)
Sn96.5Ag3.5	221 °C (430 °F)
Sn97Ag3	221 to 224 °C (430 to 435 °F)
K100LD	~227 °C (441 °F)
Sn99.3Cu0.7	227 °C (441 °F)
Sn100	232 °C (450 °F)
Sn95Sb5	232 to 240 °C (450 to 464 °F)

## Recycling Services

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



## Storage, Handling and Shelf Life

See ALPHA and Kester Solid Solder Storage, Handling and Shelf Life reference bulletin document for more information.

## Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet and warning label before using this product. Safety Data Sheets are available at this [link](#).

## Contact Information

To confirm this document is the most recent version, please contact [Assembly@MacDermidAlpha.com](mailto:Assembly@MacDermidAlpha.com)

<p><b>North America</b> 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.253.7837</p>	<p><b>Europe</b> Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400</p>	<p><b>Asia Pacific</b> 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100</p>
--	--	---

Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "R" and "TM" are registered trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.