

RHO ISO EXTRACT 10%

A pure, aqueous solution of the potassium salts of reduced (rho) iso-alpha acids produced entirely from CO₂ Extract.



OVERVIEW

- Rho – 10% is a clear, aqueous solution of the potassium salts of reduced (rho) iso-alpha acids that is especially suitable for direct injection into beer.
- Rho – 10% provides protection against lightstruck flavour when used as the sole source of bitterness or in combination with other light stable hop products.
- Rho – 10% is prepared from CO₂ Hop Extract by a special process that ensures substantial elimination of water-insoluble impurities that may reduce utilization values.

PROPERTIES	
APPEARANCE	A pale, clear, reddish amber and mobile liquid with slightly floral aroma.
UTILISATION	Based on HPLC analysis, utilization of rho-iso-alpha acids into beer may be expected to fall in the range 85 – 95%, though actual values will depend upon particular brewery circumstance.
FLAVOUR	Rho – 10% provides only bitterness to the beer. Many brewers consider that rho-iso-alpha acids impart an especially pleasant, “soft” bitterness to beer.
FOAM	Beer bittered solely with rho-iso-alpha acids to the same taste bitterness as equivalent beer brewed with hops, hop pellets or hop extracts will have a slightly improved foam character.
CHEMICAL RESIDUES	Nitrates and heavy metals are almost completely absent from Rho – 10%. Many pesticide residues that were present on the original hops will also be essentially absent or else much reduced in relation to the bittering potential of the product.
QUALITY	All products are produced in plants accredited to internationally accepted quality standards.
PACKAGING	Rho – 10% can be packaged in pails, drums or totes according to customer requirements: Pails: 3 to 20kgs (6.6 – 44.1lbs); Drums: 50 & 200kgs (110 – 441lbs) Totes: 1000kgs

QUICK SPECS

DESCRIPTION	A pale, reddish amber, mobile liquid at room temperature
RHO-ISO-ALPHA ACIDS	Standardized to 10 ± 0.2% w/w by HPLC
ISO-ALPHA ACIDS	< 0.1%
ALPHA ACIDS	Absent (< 0.1%)
BETA ACIDS	< 0.1%
HOP OILS	< 0.2%
PH	8.8 (± 0.5)
VISCOSITY	2 – 6 mPas (at 20°C / 68°F)
DENSITY	1.010 (± 0.005) g/ml

SAFETY

Rho – 10% may be safely handled using routine precautions to avoid contact with skin and, particularly, eyes. Solution coming into contact with the skin should be washed off with soap and water or proprietary hand cleansers. If it gets into the eyes, irrigate thoroughly with water until clear and seek medical attention.

BEST BEFORE

Iso-Extract is stable 2 years from date of production under the recommended storage conditions.

TECH SUPPORT

We offer help and advice on the full range of products:

- Copies of all relevant analytical procedures
- Material Safety Data Sheets
- Assistance with pilot or full brewery trials



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PRODUCT USE

It is recommended that Rho – 10% be used for direct injection, as is, into beer prior to final filtration. However, if desired, Rho – 10% may first be safely diluted into demineralized water but take care to avoid exposure to atmospheres that are enriched in carbon dioxide as this may cause excessive haze formation.

Best results will always be achieved if the rho-iso-alpha acids solution is injected in a vigorous manner so that dispersion is almost instantaneous. For example, injection into a beer main close to the suction side of a transfer pump is a suitable technique.

For production of a light stable beer, it is essential that all sources of unreduced alpha or iso-alpha acids be excluded. Hence, only use yeast that has been harvested from a light stable beer and ensure that any kettle hop addition is also “light stable”. Where the foam enhancing properties of Tetra Iso-Extract are also desired, then the two products may either be injected separately, or else an appropriate blend may first be made by adding the necessary amount of Tetra Iso-Extract to the Rho – 10%

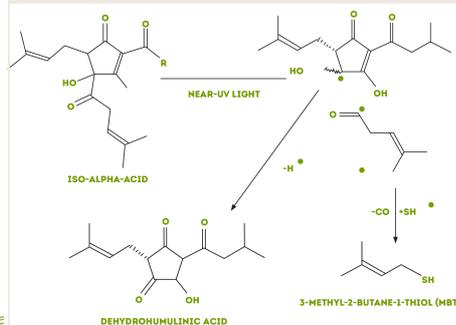
DOSAGE	Actual utilization will depend upon particular plant and process conditions, but highest utilizations are likely if Rho-10% is added to beer that does not contain a high content of yeast or other suspended solids. Account must also be taken of the fact that rho-iso-alpha acids are only 60–70% as bitter as normal iso-alpha acids.
ADDITION	Rho – 10% provides only bitterness to the beer. Many brewers consider that rho-iso-alpha acids impart an especially pleasant, “soft” bitterness to beer.
LIGHT STABILITY	For maximum light stability, it is essential that non-reduced iso-alpha acids are virtually absent in the beer. Therefore, be sure to: <ul style="list-style-type: none"> • Avoid contamination from equipment surfaces that have been in contact with normal iso-alpha acids. • Never pitch wort with yeast that has been in contact with normal alpha and iso-alpha acids.
CHEMICAL RESIDUES	Rho – 10% is best stored in sealed containers at temperatures of 5°C– 15°C (41°F - 59°F). Opened containers should be resealed and used within a few days. DO NOT FREEZE! In the course of time, a slight deposition of resinous material may occur. This is of no practical consequence and may be ignored.

ANALYTICAL METHODS

CONCENTRATIONS REDUCED (RHO) ISO-ALPHA ACIDS

The concentration of reduced (rho) iso-alpha acids is measured by HPLC using the current ICS standard according to the modified EBC 7.9 method. Details of recommended methods are available on request.

CHEMISTRY OF “SUNSTRUCK” FLAVOUR FORMATION



MBT has a “skunky” odour and is detectable in beers at about 10ppt. However, its formation by photolytic reaction cannot occur if the iso-Alpha Acids are present only in a chemically reduced form.



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