

Chapter 2:
The Wine Kit & Ingredients

Instructions

Kit instructions can always be found at rjscraftwinemaking.com or in the add pack.

Follow instructions and use sheet to record important information such as Product Date Code (can be peeled from top of the wine kit box), wine style, and start date.

Check and log your specific gravity (SG) as you move through the process.

The Wine Kit Bladder

RJS Kits range from 4 litres - 23 litres (approx. 1 gal - 6 gal) Includes juice and concentrate

- Juice = stabilized juice

- Concentrate = juice where water content has been removed; must be reconstituted with fresh, soft water to required volume for making wine

Entry level kits are primarily concentrate. The higher the price / tier, the more juice and less concentrate. Juice generally contributes more varietal characteristics.

The juice and concentrate are blended and balanced in our production facilities, pasteurized, and packaged.

The Wine Kit Bladder



Water

Only use fresh, clean, soft water

- If you drink it & like it, use it; chlorine is usually not a problem unless it is high and/or you can smell it.
- If water is of poor quality, use bottled water or distilled (deionized, demineralized) water, or use a water softener, filter or purifier; avoid salt-based softened water.

Grape Skins

Some RJS red wine kits contain Genuwine Winery Grape Skins.

Genuwine Winery Dried Grape Skins are made through a patented process of gently drying crushed whole grape skins to retain original colour and nutritional integrity.

Genuwine Winery Crushed Grape Skins are a jam-like product made with whole crushed grape skins, juice, seeds, and stems.

Grape skins allow for further extraction of polyphenols and aromatic precursors for more complex and fuller-bodied wines.

Aromatic precursors = those compounds that give rise to aromatic compounds (responsible for aromas of berries, passion fruit, etc.) that you can only smell after yeast fermentation or wine aging.

Polyphenols = tannins, color pigments.

Grape Skins



Oak

**Used to add flavour/aroma complexity and mouthfeel (adds body).
The presence/absence of oak dramatically impacts style.**

Kits generally use oak alternatives: spirals, staves, cubes, chips, powder. These “act” very quickly and do not require months or years of aging like barrels; can be days or weeks depending on desired character.

RJS wine kits have been crafted to produce a wine kit in a specific style. Altering or experimenting with the oaking regime will alter the profile of the finished wine.

A kit may contain one, two or more different types of oak packets and/or alternatives.

RJS currently uses French, American and Hungarian Oak in forms including chips, shavings, powder, staves, spirals, and cubes.

Oak



Dehydrated fruit

RJS kits may also include other types of dehydrated fruit that contribute to the overall style and taste profile of the finished wine

- Elderberries
- Raisins



Yeast

Most kits are supplied with **LALVIN EC-1118** *Saccharomyces cerevisiae* var. bayanus; a very strong fermenting yeast, i.e. it can ferment to high alcohol levels and under stressful conditions in a wide temperature range between 10° - 30°C (50°–86°F), that minimizes risks of stuck or sluggish fermentation.

Always ferment within the recommended temperature range to avoid potential problems and possibly flawed wine.

Yeast



Sulphites

Sulphites are common (approved) food and beverage additives.

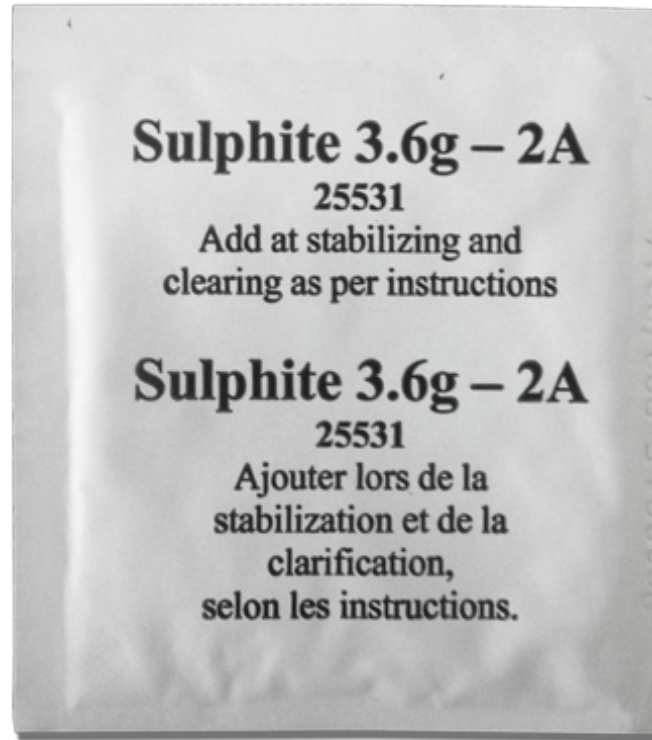
Sulphites are salts that, when added to wine, release sulphur dioxide (SO_2) to protect the wine from oxidation and microbial spoilage.

Effective on many kinds of undesirable yeasts and bacteria.

Identified as Package #2A

Addition is done at the end of alcoholic fermentation during the “Stabilization and Clearing” phase.

Sulphites



Sulphites

If you choose to forego sulphite additions, your wine will oxidize within weeks and be at high risk of microbial spoilage.

Note that yeasts generate in the order of 10 mg/L of SO^2 during fermentation.

If the consumer is ageing their wine, we recommend adding $\frac{1}{4}$ tsp of extra sulphite before bottling.

Health Canada's maximum allowable total SO^2 is 300 mg/L.

Potassium Sorbate

A salt of sorbic acid; a commonly used preservative in food and wine. It is used to inhibit reproduction of yeast cells.

Sorbate does not kill yeast cells, i.e. it cannot stop an active fermentation, but will prevent renewed fermentation when you sweeten a wine before bottling.

- Acts on enzymes that would cause further assimilation of sugar and refermentation.
- WARNING: During fermentation, yeast grow and multiply rapidly, much faster than sorbic acid would be able to enter yeast cells. As a result, yeast can actually start metabolizing sorbic acid into other undesirable by-products.

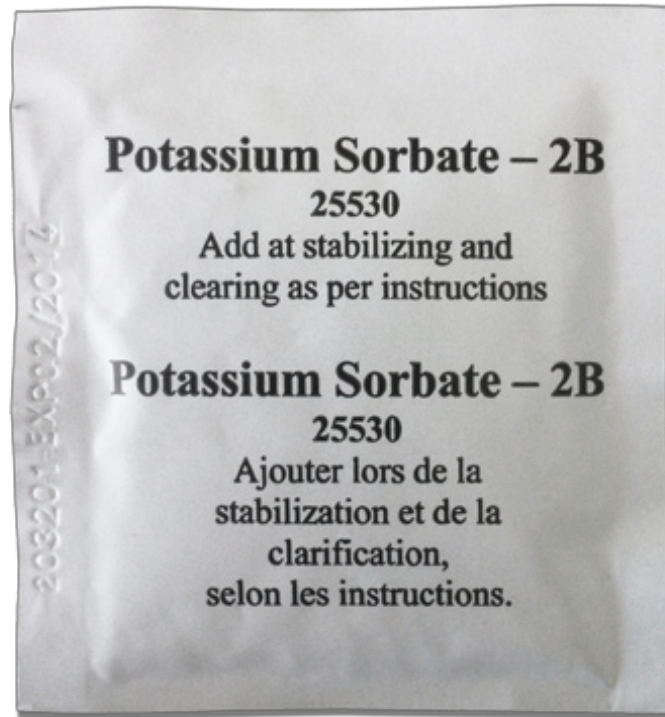
Potassium Sorbate

Must be used in conjunction with sulphite.

Identified as Package #2B

Addition is usually done at the end of alcoholic fermentation during the “Stabilization and Clearing” phase.

Potassium Sorbate



Süss Reserve Pack™ / Finishing Blend

Used to sweeten wine; very popular in Germanic-style wines such as Riesling, Gewürztraminer, Silvaner and Müller-Thurgau.

- Traditionally süss reserve (literally meaning “sweet reserve” in German) is unfermented grape juice that is stabilized and clarified after the grapes are pressed and ‘reserved’. It is added back into a finished wine as a natural means of balancing the wine in terms of residual sugar, acidity, and alcohol levels.”

Süss Reserve Pack™ / Finishing Blend

Used in RJS kits to achieve a desired wine style that has a slightly higher Residual Sugar (RS)

May be used to balance high acidity.

Addition is usually done during the “Stabilization and Clearing” phase.



Clarifying Agents

Used to clear, or “clarify”, wine post fermentation by binding and precipitating colloidal matter, i.e. those large molecules, such as proteins and pectins, or dissolved metal ions that cause cloudiness, or “turbidity”, or other instabilities.

Binding occurs by electrical attraction between oppositely charged fining agent ions and colloids, by bond formation through chemical reaction, or through absorption and adsorption where the substance to be removed becomes entrapped within the structure of the fining agent or bind onto the surface of the fining agent.

Clarifying Agents

Different types of wines may require different types of clarifying agents.

Most dry fining agents need to be rehydrated in water before being added to the wine; otherwise, the fining action may not work properly.

Follow usage instructions very carefully; RJS kits include kieselsol and chitosan that must be added in the correct sequence.

Additions are done during the “Stabilization and Clearing” phase.

Kieselsoil/Chitosan

Kieselsoil is a liquid-form, silica-based (sand) fining agent.

Chitosan is a polysaccharide.

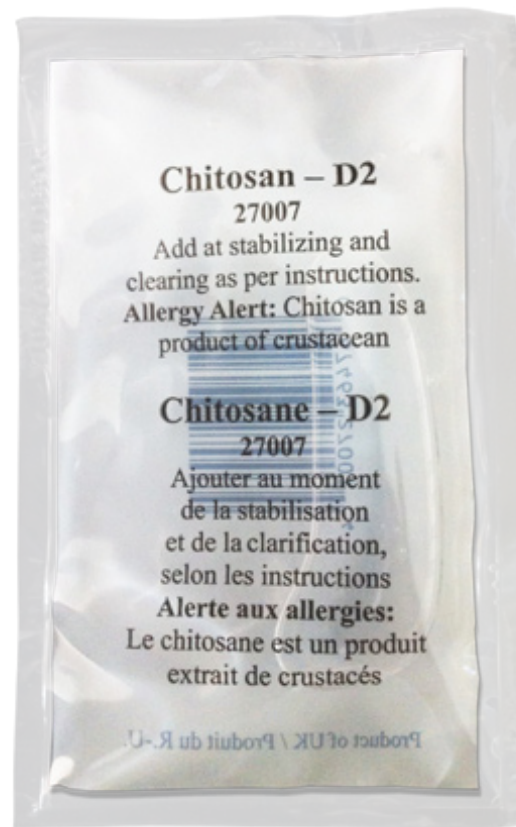
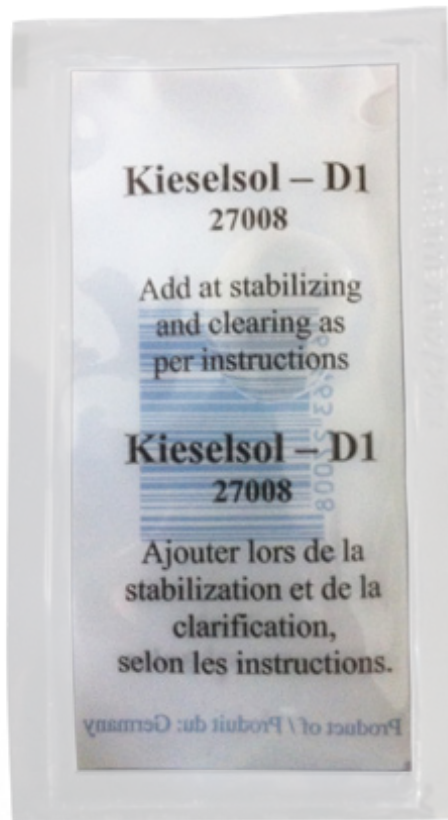
Very efficient adsorption; acts relatively quickly.

Kieselsoil (package # D1) and chitosan (package # D2) **MUST** be used together in the correct sequence:

1. Add Kieselsoil **FIRST** and stir thoroughly.
2. Then add chitosan and stir thoroughly.***

***Waiting for at least an hour is beneficial and may help ensure a trouble free clearing process

Kieselsohl/Chitosan



Bentonite

A clarifying agent (most common in kits) used to ensure a crystal-clear wine and to prevent a clear wine from going cloudy.

Bentonite is a clay (sodium bentonite).

RJ Spagnols wine kits call for an addition of bentonite (package #1) on day 1.

Large absorption capacity.

Very effective on proteins.

- Proteins can cause a perfectly crystal-clear wine to become cloudy when subjected to high temperatures – the phenomenon is known as protein denaturation (that's what happens to egg whites when cooked).

Bentonite



Isinglass

Isinglass is a protein-based fining agent.

Acts and precipitates very quickly.

Strips colour only minimally.

Effective at cellar temperature.

Produces very loose lees that tend to stick to the side of containers; may require a bentonite treatment.

DOSAGE: 0.25-1 g per carboy.

Metatartaric Acid

Used to help protect wine from the precipitation of tartrate crystals that could form if wine is exposed to cold temperatures.

Acts by interfering with bitartrate formation.

Not very stable; it slowly hydrolyzes into tartaric acid; inhibition potential diminishes and the potential of tartrate formation increases.

Suitable for wine to be drunk within 12 months.

Recommend storing treated wine in a cool cellar.

Addition is done just before bottling.

Treating wine with metatartaric acid is not a guarantee that crystals won't form!