

SULFITE MYTHBUSTING & MORE



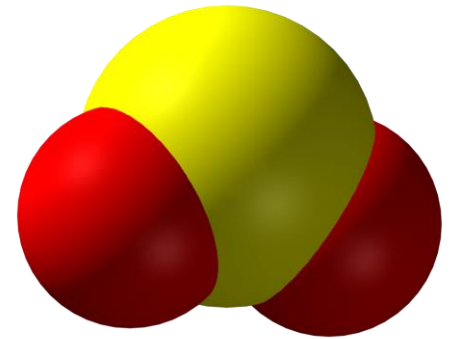
CONTAINS SULFITES

**MENT WARNING: (1) ACCORDING TO THE SURGEON GEN
SHOULD NOT DRINK ALCOHOLIC BEVERAGES DU
CY BECAUSE OF THE RISK OF BIRTH DEFECTS. (2) CONSUM
OLIC BEVERAGES IMPAIRS YOUR ABILITY TO DRIVE A CA
MACHINERY, AND MAY CAUSE HEALTH PROBLEMS.**

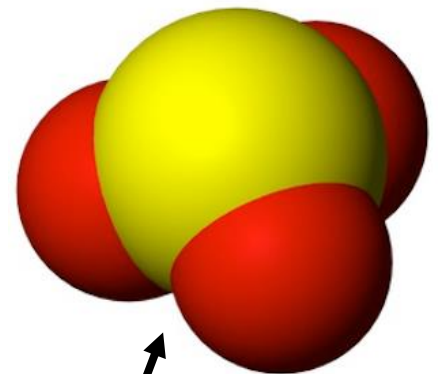
WHAT ARE SULFITES?

1. IN CHEMISTRY: THE SALT OF SULFROUS ACID (SO_2^3).

IN COMMON USAGE:
INCLUSIVE TERM FOR
BOTH SULFUR DIOXIDE
(SO_2) AND THE MORE
COMPLEX SULFUR
OXIDES DERIVED FROM IT



SO_2



SO_2^3

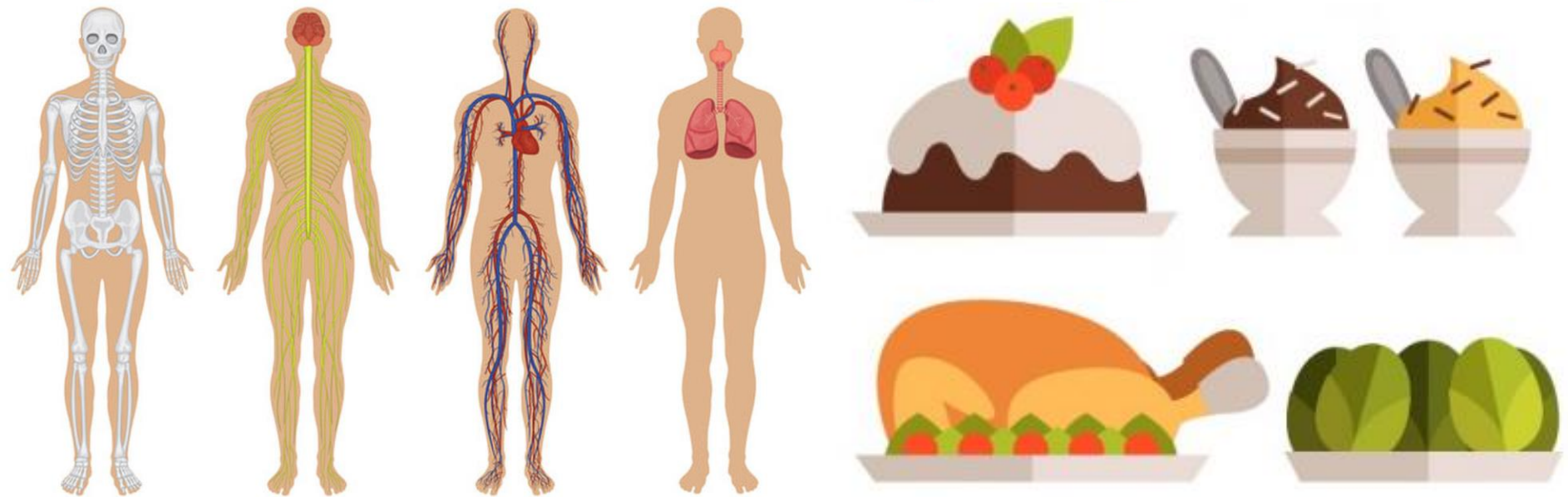
WHAT ARE SULFITES?

2. COMMON ANTI-MICROBIAL PRESERVATIVES USED IN WINE AND MOST TYPES OF PRESERVED FOODS



WHAT ARE SULFITES?

3. CHEMICAL COMPOUNDS THAT OCCUR NATURALLY BOTH IN THE HUMAN BODY AND IN SOME FOODS



WHAT ARE SULFITES?

4. A NATURAL BYPRODUCT OF THE FERMENTATION PROCESS

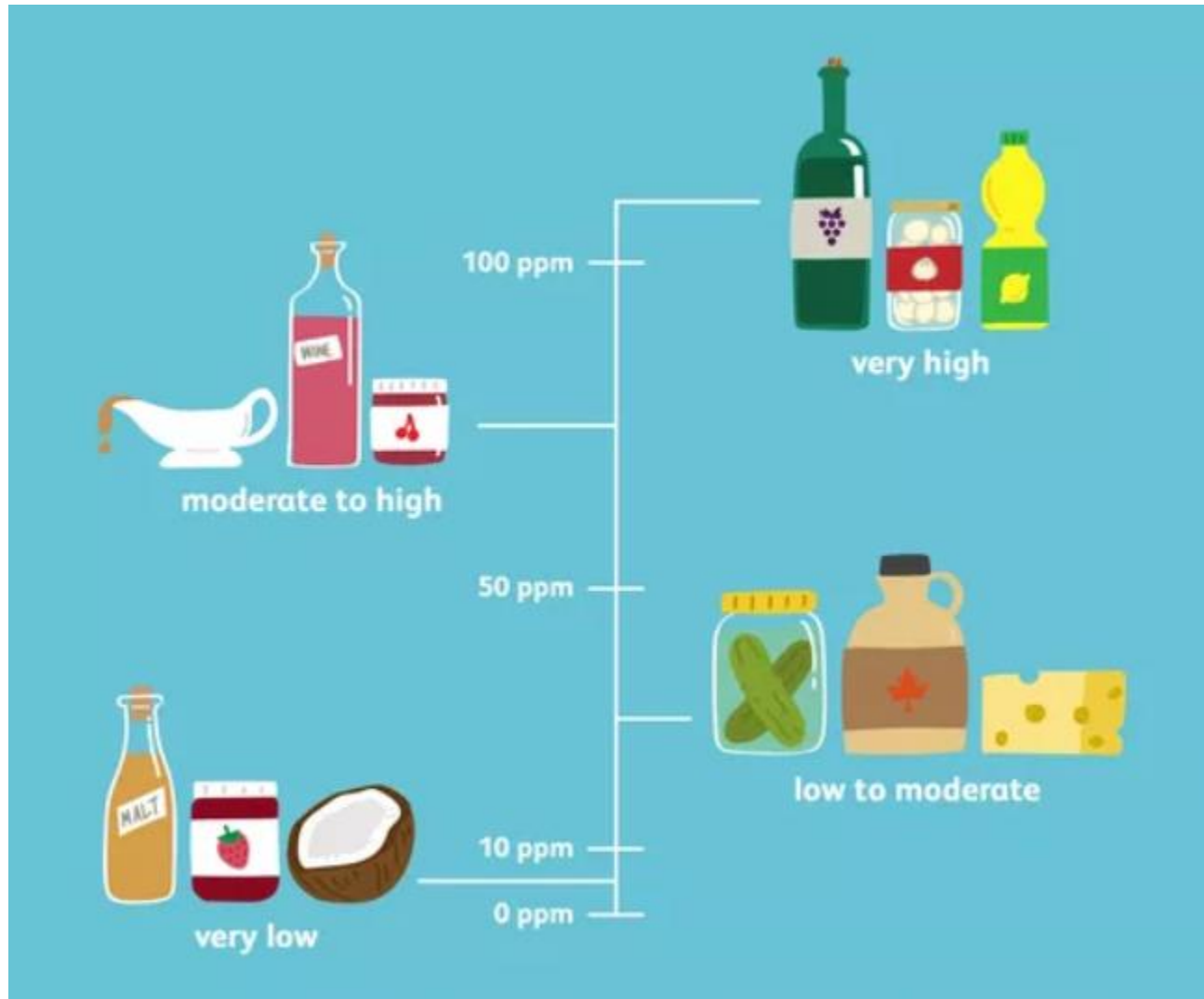


SULFITES & HEALTH

PEOPLE WITH SULFITE SENSITIVITY
CAN EXPERIENCE RESPIRATORY
SYMPTOMS SIMILAR TO ASTHMA



SULFITES & HEALTH



SULFITES & HEALTH

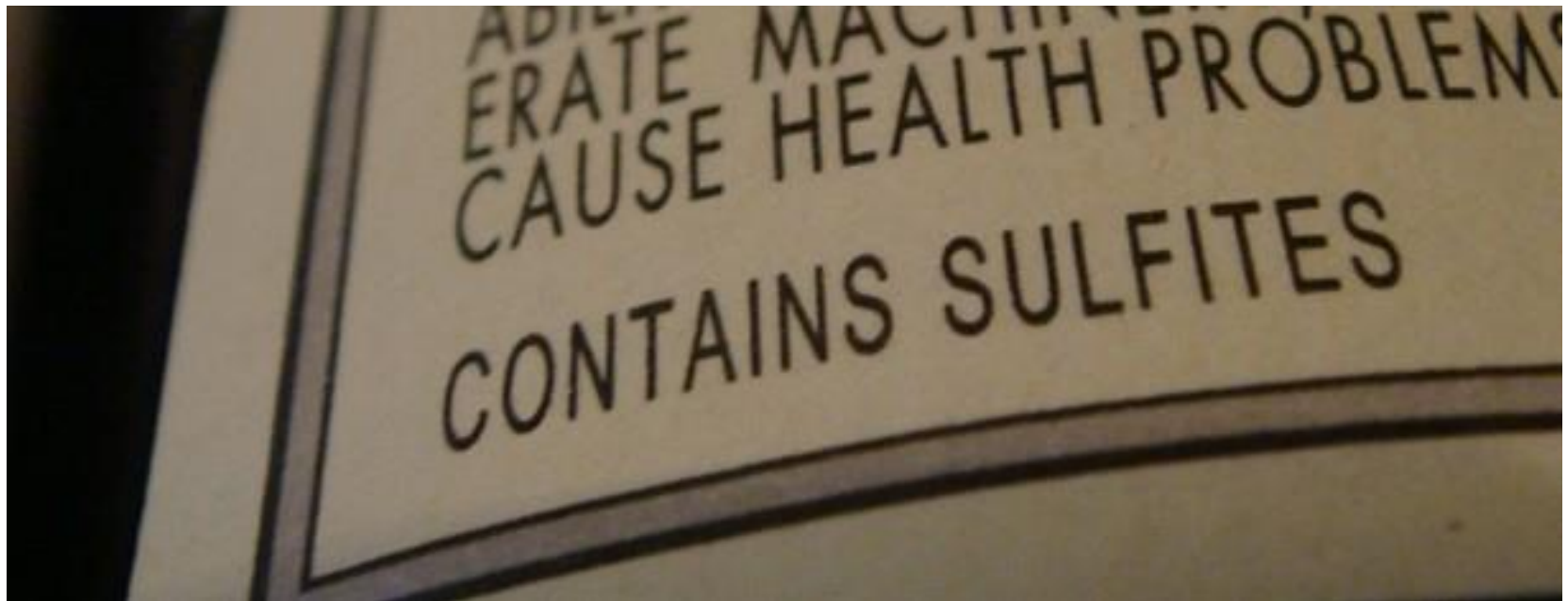
HOWEVER, THERE IS NO DOCUMENTED
LINK BETWEEN SULFITES AND WINE'S
MOST COMMON ADVERSE REACTIONS:

- HEADACHES
- INDIGESTION
- HEARTBURN
- HANGOVERS
- FLUSHING



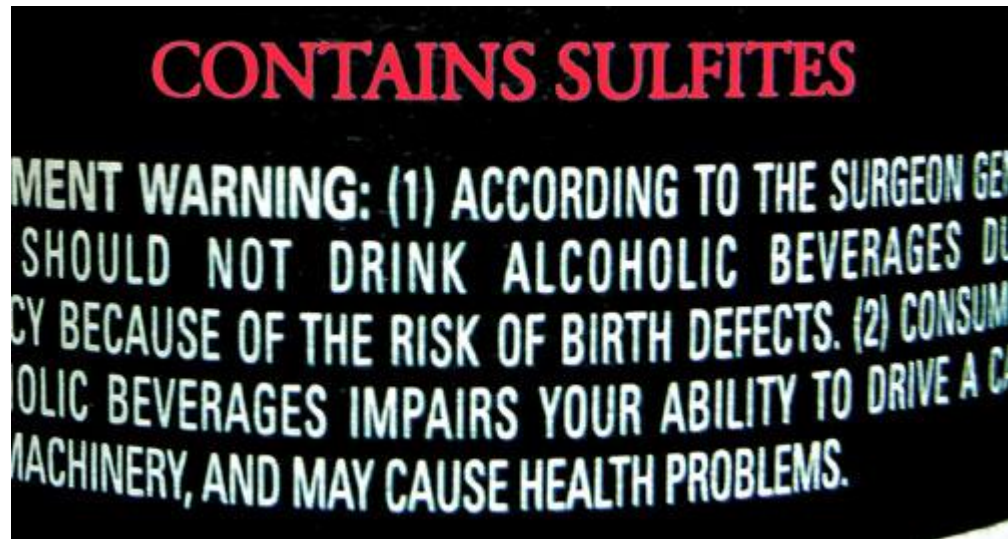
WHY DO PEOPLE THINK SULFITES ARE A PROBLEM?

WINE MUST CARRY A WARNING
ON THE LABEL: “CONTAINS SULFITES”



1987-88:

US GOVERNMENT MANDATES
WARNING LABEL ON WINE,
BUT SETS THRESHHOLD 10 TIMES
LOWER THAN THAT USED IN
OTHER COUNTRIES



2014:

E.U. AND OTHER WINE PRODUCING COUNTRIES ADOPT THE STRICT US STANDARD FOR SULFITES

GIODO TOSCANA IGT / RED WINE
14% ALC/VOL 750 ML
PRODUCT OF ITALY CONTAINS SULFITES

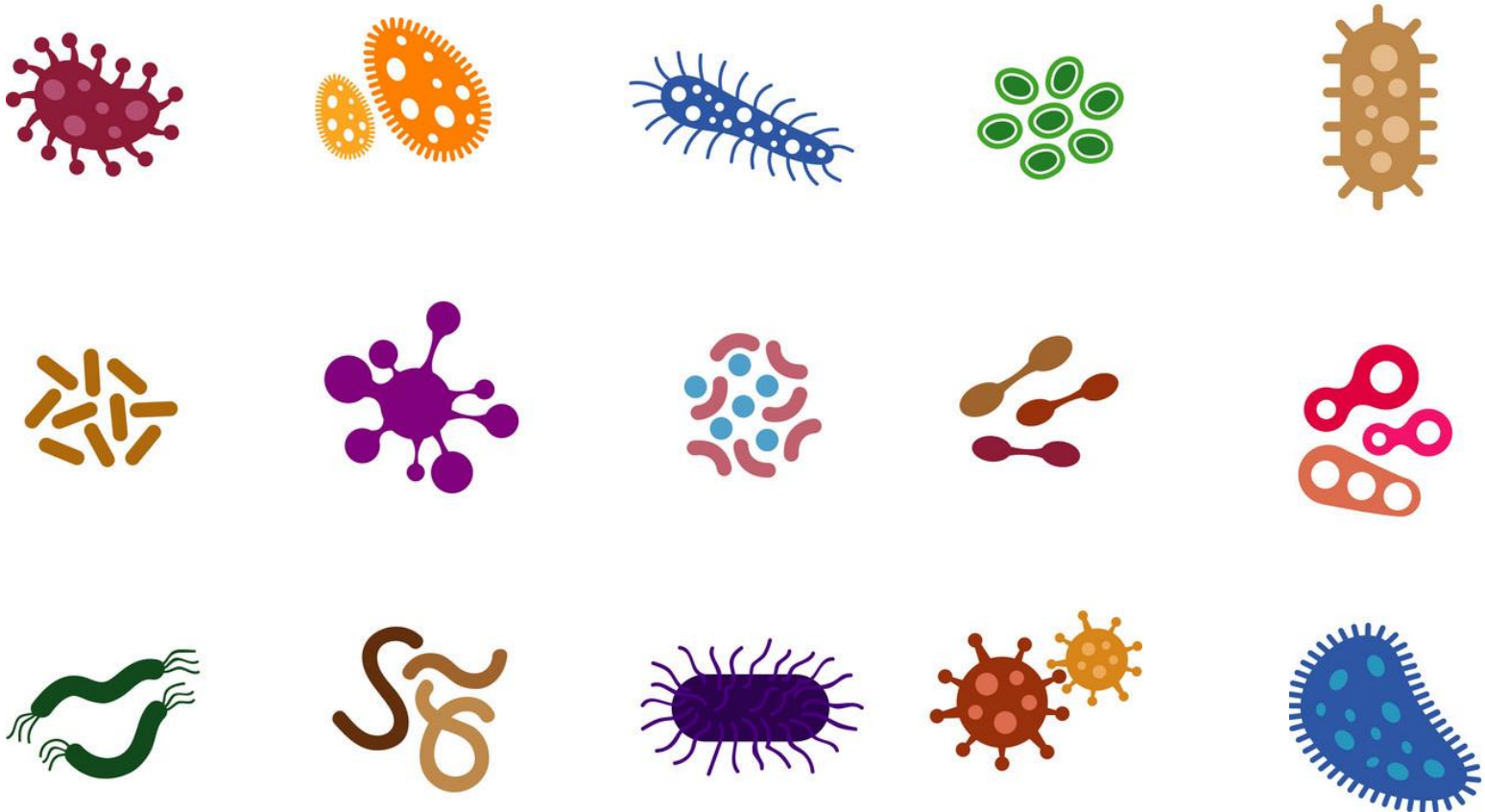
KINDRED VINES
IMPORT CO

Imported by Kindred Vines
Troy, Michigan
KindredVines.com

GOVERNMENT WARNING: (1) ACCORDING TO THE SURGEON GENERAL, WOMEN SHOULD NOT DRINK ALCOHOLIC BEVERAGES DURING PREGNANCY BECAUSE OF THE RISK OF BIRTH DEFECTS. (2) CONSUMPTION OF ALCOHOLIC BEVERAGES IMPAIRS YOUR ABILITY TO DRIVE A CAR OR OPERATE MACHINERY, AND MAY CAUSE HEALTH PROBLEMS.

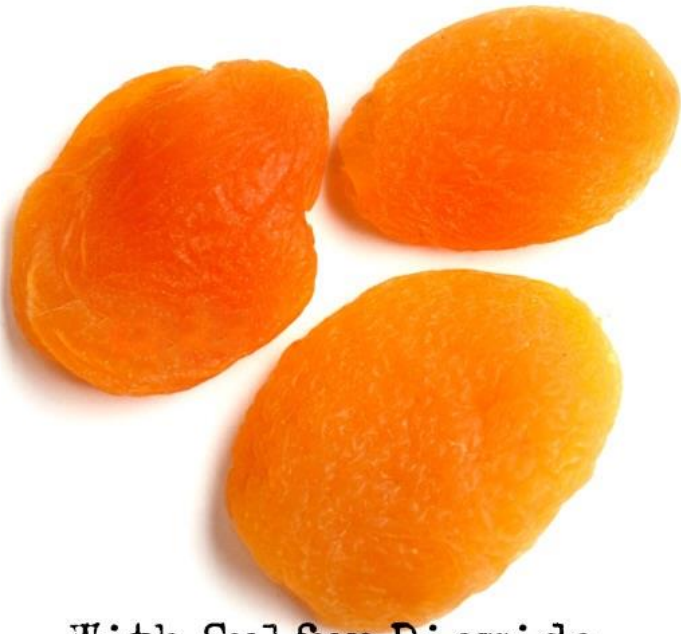
WHAT DO SULFITES DO?

KILL MICRO-ORGANISMS, LIKE
BACTERIA, MOLDS, YEASTS

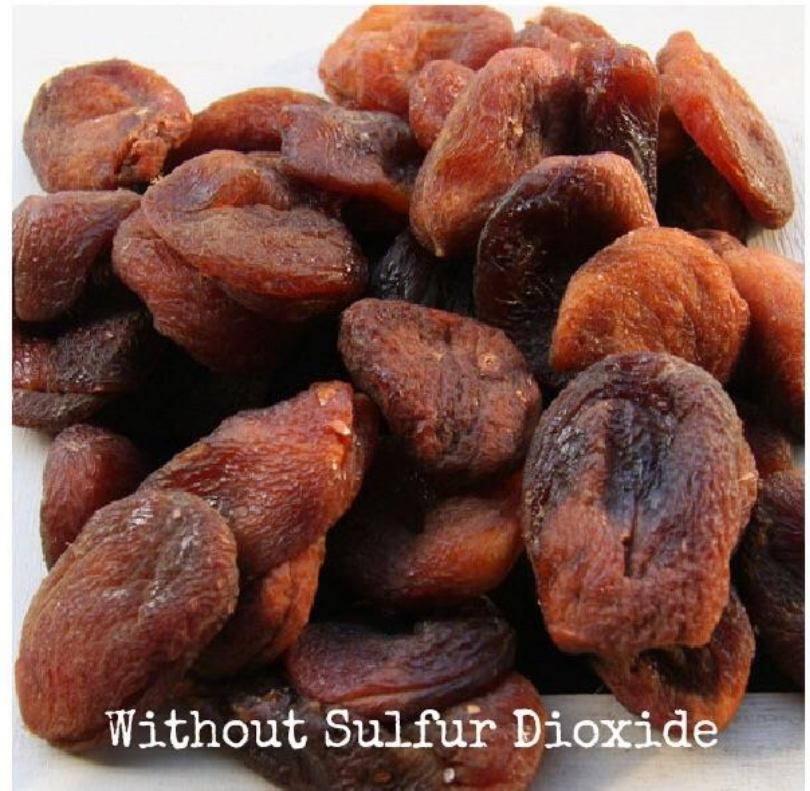


WHAT DO SULFITES DO?

AND ALSO
PREVENT OXIDATION

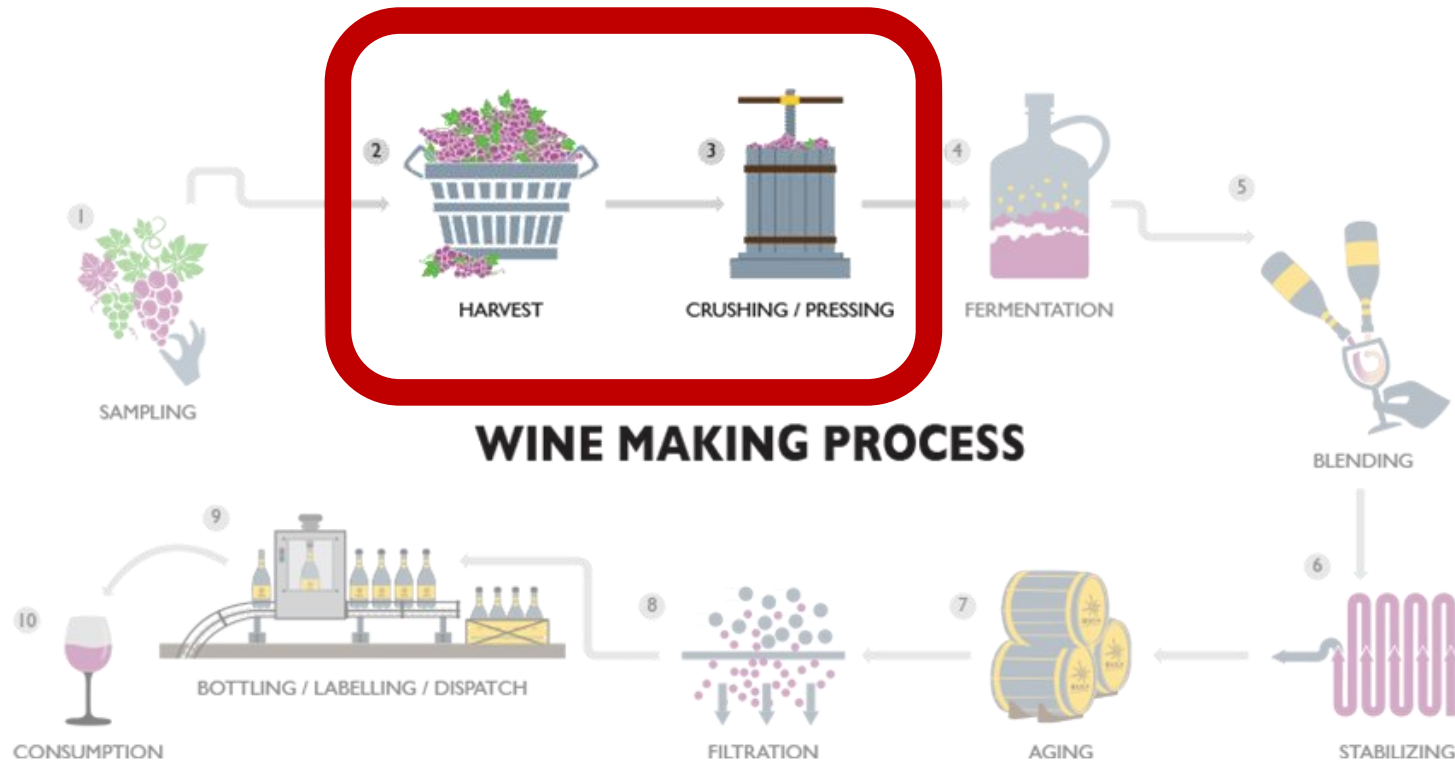


With Sulfur Dioxide



Without Sulfur Dioxide

HOW ARE SULFITES USED?



ALMOST ALL WINES HAVE A PINCH OF SULFITE ADDED **BEFORE** FERMENTATION

HOW ARE SULFITES USED?



MASS MARKET WINES HAVE MORE SULFITE ADDED **AFTER** FERMENTATION

SULFITE CONTENT VARIES WIDELY BY WINE TYPE



SULFITE CONTENT VARIES WIDELY BY WINE TYPE

CHEAP WINES USUALLY CONTAIN
FAR MORE SULFITES THAN FINE WINES



SULFITE CONTENT VARIES WIDELY BY WINE TYPE

WHITE WINES TYPICALLY REQUIRE
MORE SULFITES THAN RED WINES



SULFITE CONTENT VARIES WIDELY BY WINE TYPE

OLD WORLD WINES OFTEN CONTAIN MORE
SULFITES THAN NEW WORLD WINES



SULFITE CONTENT VARIES WIDELY BY WINE TYPE

SWEET DESSERT WINES
USUALLY CONTAIN THE
HIGHEST SULFITE LEVELS



SULFITE CONTENT VARIES WIDELY BY WINE TYPE

ORGANIC AND BIODYNAMIC
WINES USUALLY CONTAIN THE
LOWEST LEVELS OF SULFITES



US SULFITE STANDARDS



MAX. SULFITE CONTENT

STANDARD WINES:

350mg PER LITER

WINES FROM ORGANIC GRAPES:

150mg PER LITER

ORGANIC WINES:

NO ADDED SULFITES, BUT MAY
CONTAIN UP TO 10mg PER LITER
OF NATURAL SULFITES

EU SULFITE STANDARDS



MAX. SULFITE CONTENT

VERY SWEET WINES:

400mg/L (300mg if ORGANIC)

LIGHTLY SWEET WINES:

260mg/L

DRY WHITE/ROSÉ WINES:

210mg/L (150mg if ORGANIC)

DRY RED WINES:

160mg/L (100mg if ORGANIC)

BIODYNAMIC SULFITE STANDARDS



MAX. SULFITE CONTENT

ALL BIODYNAMIC WINES,
REGARDLESS OF COUNTRY:
100mg/L

MAY BE ADDED OR NATURAL
SULFITES

SULFITES & HEALTH

IF IT'S NOT SULFITES,
WHAT CAUSES HEADACHES,
INDIGESTION, HEARTBURN,
HANGOVERS, FLUSHING, ETC...?



HEADACHES

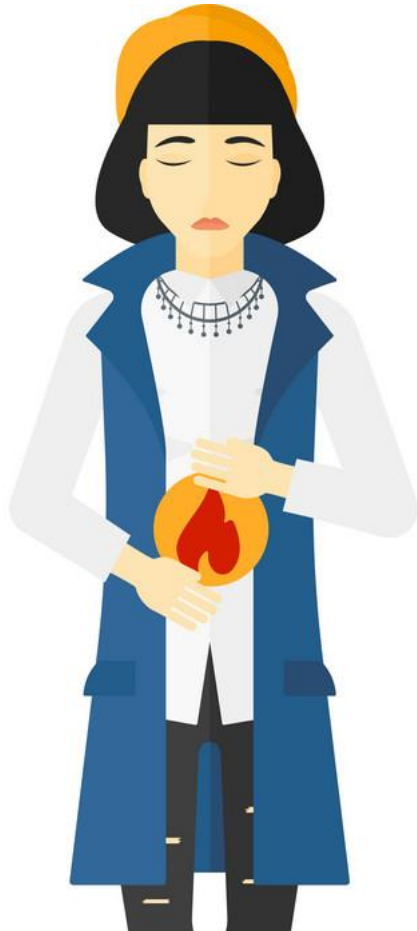
THE MAIN CULPRITS FOR HEADACHES
FROM WINE ARE:



- TOO MUCH ALCOHOL
- HISTAMINE REACTIONS
- TYRAMINE
- DEHYDRATION

INDIGESTION / HEARTBURN

THE MAIN CULPRITS FOR DIGESTIVE
ISSUES FROM WINE ARE:



- WINE'S NATURALLY HIGH ACIDITY
- ALCOHOL CAN CAUSE IRRITATION OF ESOPHAGUS / STOMACH

FLUSHING / REDNESS

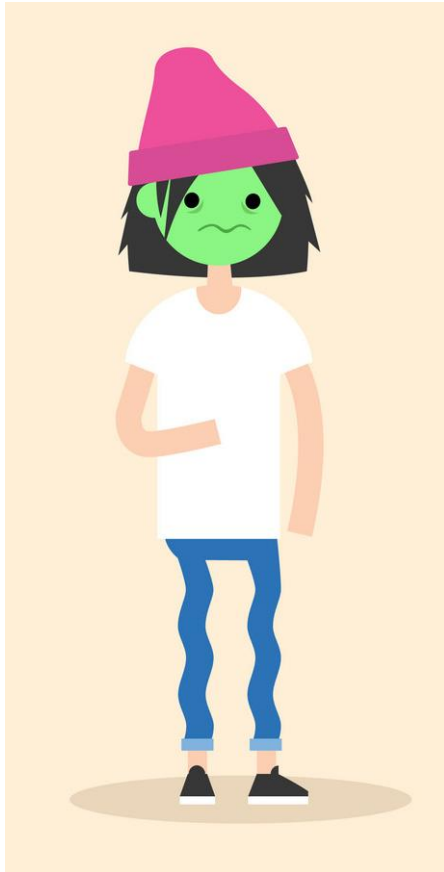
THE MAIN CULPRITS FOR SKIN REDNESS
FROM WINE ARE:



- ALCOHOL CAN EXPAND BLOOD VESSELS
- CONDITIONS SUCH AS “ALCOHOL FLUSH” OR ROSACEA

HANGOVERS

THE MAIN CULPRITS FOR HANGOVERS
FROM WINE ARE:



- EXCESS WINE CONSUMPTION
- DEHYDRATION
- INDIVIDUAL SENSITIVITIES TO COMPONENTS IN WINE