



SNOWPEAK BRAND

天銀化工(私人)有限公司 TIEN YUAN CHEMICAL (PTE) LTD.

Manufacturer of:
Eugenol,
Menthol Crystal
& Other Essential Oil

CERTIFICATE OF QUALITY / ANALYSIS

DATE : 30 March 2015

DEAR SIRs,

INVOICE NO. : TYC152-129
VESSEL NAME : SPAARNE TRADER V.318
FROM : SINGAPORE PORT

ETD : 31 March 2015
TO : VICT PORT, HOCHIMINH CITY, VIETNAM

B/N. 150309

MFG DATE : 26.03.2015
BB DATE : 26.03.2020

MENTHOL LARGE CRYSTAL BP/USP
ORIGIN : SINGAPORE (SNOWPEAK BRAND)
AS PER CONTRACT NO. 003/15HT-TY DATED 15.01.2015

WE HEREBY CERTIFY THAT THE ANALYSIS RESULTS ARE AS FOLLOWS :-

A) GENERAL DESCRIPTION

APPEARANCE :
ODOR :
IDENTIFICATION

COLOURLESS, PRISMATIC OR ACICULAR, SHINY CRYSTAL
STRONG CHARACTERISTIC ODOR.
TRITURATE L-MENTHOL WITH AN EQUAL AMOUNT OF CAMPHOR,
CHLORAL HYDRATE OR PHENOL ; THE MIXTURE LIQUEFIES.
PRACTICALLY INSOLUBLE IN WATER, VERY SOLUBLE IN ETHANOL (96%)
AND IN LIGHT PETROLEUM, FREELY SOLUBLE IN FATTY OILS AND IN
LIQUID PARAFFIN, VERY SLIGHTLY SOLUBLE IN GLYCEROL

SOLUBILITY

B) ANALYTICAL DATA

ACIDITY OR ALKALINITY : 0.40ML
(10% W/W IN ETOH 96%)
SPECIFIC OPTICAL ROTATION : -49.65°
AVERAGE MELTING POINT : 42.30°C
RESIDUE ON EVAPORATION : 0.03%
APPEARANCE OF SOLUTION : COMPLIED
HEAVY METALS : COMPLIED
(LEAD, ARSCENIC, MERCURY, CADMIUM)
ASSAY (BY GC) : 99.46%
RELATED SUBSTANCES : COMPLIED
RESIDUAL SOLVENTS : COMPLIED

RESULT

SPECIFICATION (EP/BP2014/USP37)

NOT MORE THAN 0.5ML OF 0.01M NaOH (EP/BP2014)
REQUIRED TO CHANGE COLOUR TO PINK. (EP/BP2014)
-48° TO -51° (EP/BP2014) / -45° TO -51° (USP37)
ABOUT 43°C (EP/BP2014) / 41°C TO 44°C (USP37)
NOT MORE THAN 0.05% (EP/BP2014/USP37)
SOLUTION IS CLEAR AND COLOURLESS (EP/BP2014)
10PPM MAX EACH
NOT LESS THAN 99% W/W. (EP/BP2014)
NOT LESS THAN 98% W/W. (USP37)
NOT MORE THAN 1% OF THE AREA OF THE PRINCIPAL PEAK (EP/BP2014)
(467) UNDER CHEMICAL TESTS SECTION (USP37)

EXTRACTION OF MENTHOL IS THROUGH CRYSTALLIZATION WITHOUT USING ANY SOLVENTS.
THEREFORE, WE HEREBY DECLARE THAT OUR MENTHOL CRYSTALS DOES NOT CONTAIN RESIDUAL
SOLVENT(S). IT MEETS THE RESIDUAL SOLVENTS REQUIREMENTS UNDER USP37 SPECIFICATIONS &
ICH TOPIC Q3C IMPURITIES RESIDUAL SOLVENTS

YOURS FAITHFULLY,
TIEN YUAN CHEMICAL (PTE) LTD

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CHEMIST