



# UNITED SCIENCE

500 Simmon Drive, Osceola WI 54020

## CERTIFICATE OF ANALYSIS

<b>CUSTOMER:</b>	United Science	<b>CERTIFICATION DATE:</b>	18DEC2023
<b>PRODUCT NAME:</b>	ultrapure vanilla 40 fold	<b>MANUFACTURE DATE:</b>	13DEC2023
<b>PACKAGE SIZE:</b>	5ml brown vial	<b>RECERTIFICATION DATE:</b>	Not Applicable
<b>BEST BY DATE:</b>	13DEC2028	<b>LOT NUMBER:</b>	N/A
<b>DESCRIPTION</b>	5ml liquid extracted/diluted from scCO2 extractant of vanilla beans		
<b>STORAGE CONDITIONS:</b>	Store at room temperature, avoid exposure to direct sunlight		

IDENTITY TEST - organoleptic properties testing			
TEST DESCRIPTION	SPECIFICATION	RESULTS	STATUS
ASSAY (BY HPLC)	VANILLIN	AS REPORTED	PASS
APPEARANCE	5ML BROWN VIAL	AS REPORTED	PASS
COLOR	LIGHT YELLOW	AS REPORTED	PASS
ORGANOLEPTIC	SWEET SMELL, ODOR OF VANILLA FLAVOR	AS REPORTED	PASS

Production Specifications	
Chemical Name	N/A
Empirical Formula	N/A
Declaration	
USA	Natural
EU	Natural Flavoring Preparation
Appearance	Brown Liquid
Odor	Vanilla
Melting point (for solids only)	N/A
Boiling point	N/A
Flash Point	>110 °C
Specific Gravity @20 °C	1.270-1.300
Refractive index @20 °C	1.475-1.495
Vanillin Content	40X
Alcohol% (v/v)	35% min.
Solubility	Soluble in water; soluble in most organic solvent
Storage and shelf life	In tightly closed container away from light and source of ignition at max. 20 °C; 36 months.

FEMA No.:	3106
CFR No.:	169.178
EINECS No.	283-521-8
CAS No.	8024-06-4
CoE No	474
HS code	3302.10.1000
Flavis No.	N/A

**QUALITY APPROVED**

**DATE:** December 18, 2023

Lab Director, BINGWEN YAN, PhD *Bingwen Yan, PhD*

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