

SAFETY DATA SHEET (SDS)

OSHA HCS 29 CFR 1910.1200(g) and GHS Rev 06

TVA™ DYE

Section 1: IDENTIFICATION

- Product name:** TVA™ Dye (ImmunoSpot® Kit)
- Catalog number:** NKD-50, NKD-100; a component of all TVA™ Assay Kits
- Company name:** Cellular Technology Limited
20521 Chagrin Boulevard
Shaker Heights, OH 44122-5350 USA
+1 216-791-5084 T • +1 216-751-1373 F
+1 888-791-4005 Toll Free US
tva@immunospot.com
www.immunospot.com
- Recommended usage:** When mixed according to protocol with accompanying components of the TVA™ Kit, **TVA™ Dye** is a solution used to visualize fluorescent staining of target cells in TVA™ Assays. For laboratory research use only. Not for use in diagnostic or therapeutic procedures.
- Emergency telephone:** +1 216-791-5084; +1 888-791-4005 Toll Free US

Section 2: HAZARD(S) IDENTIFICATION

- GHS classification:** Dimethyl Sulfoxide (DMSO)
H227 – Combustible liquid
H313 – Causes skin irritation, Category 2
H319 – Causes serious eye irritation, Category 2
- GHS signal word:** Warning 
- Hazard statements:** H227 – Combustible liquid
H313 – Causes skin irritation
H319 – Causes serious eye irritation
- Precautionary statements:** P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P210 – Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources.
No smoking.
P262 – Do not get in eyes, on skin, or on clothing.
P264 – Wash hands thoroughly after handling.
- Response statements:** P302+P352 – If on skin, wash with plenty of soap and water.
P305+P351+P338 – If in eyes, rinse cautiously with water for several minutes, remove contact lenses if present and easy to do, continue rinsing.
P332+P313 – If skin irritation occurs, get medical advice/attention.
P362+P364 – Take off contaminated clothing and wash before reuse.
- Risk phrases:** R21 – Harmful if in contact with skin
R36 – Irritating to eyes
- Safety phrases:** S36/S37 – Wear suitable protective clothing and gloves.

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Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINS	CAS NUMBER	EC NUMBER	CONTENT
DMSO	67-68-5	200-664-2	75-100%

Section 4: FIRST-AID MEASURES

Description of first aid measures:

Skin and eyes: In case of contact, immediately flush affected area thoroughly with water. Irrigate eyes and skin for at least 15 minutes and seek medical attention. Remove contaminated clothing.

Inhalation: If inhaled, move to fresh air and seek medical attention. If breathing is irregular or stopped, give artificial respiration.

Ingestion: If ingested obtain immediate medical attention. Keep at rest. Do not induce vomiting.

Section 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide extinguishing powder, dry chemicals, or water spray can be used for small fires. Fight larger fires with water spray or alcohol-resistant foam.

Special hazards arising from the substance or mixture: Hazardous decomposition: Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

Advice for firefighters: Burning dimethyl sulfoxide produces poisonous gases (sulfur oxides). Wear positive pressure, self-contained breathing apparatus (SCBA) with a full facepiece and protective clothing including rubber gloves and suit. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Use proper personal protective equipment. Avoid breathing vapors and provide adequate ventilation.

Environmental precautions: Avoid run-off to waterways and sewers.

Containment/clean-up measures: For spills and leaks, ventilate area of leak or spill. Dilute and flush to wastewater treatment or absorb spill with inert material and transfer to chemical waste container in accordance with local and regional regulations. Do not breathe vapors or get liquid in eyes or on skin and clothing. Promptly remove soiled clothing and wash thoroughly before reuse.

Section 7: HANDLING AND STORAGE

Precautions for safe handling: Keep away from sources of ignition. Use only with adequate ventilation. Do not breathe vapors or mist. Avoid contact with skin, eyes, and clothing. Wear eye protection, chemical-resistant gloves, and lab coat.

Conditions for safe storage: Store in a tightly closed container in a well-ventilated cool, dry place. Freezes (solidifies) at 18°C. Keep away from heat, sparks, and flame. Store out of direct sunlight. Prolonged heating above 150°C can cause rapid, exothermic decomposition.

Incompatible materials: Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions of alkali bromides.

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Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

PEL: N/A

Personal protective equipment: Ventilation – use only with adequate ventilation to keep exposure limits low. Wear chemical-resistant gloves, protective goggles, and lab coat.



General protective hygiene considerations: Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating or drinking. Safety shower and eye wash should be available and close to work areas.

Environmental exposure controls: Follow best practice for site management and disposal of waste. Avoid release into the environment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear colorless liquid	Vapor pressure	0.55mbar (0.46mmHg)@20°C
Odor	Odorless	Vapor density	2.7
Odor threshold	Not available	Relative density	1.1@20°C (water=1)
pH	8.5 (50/50 in water)	Solubility	Miscible
Melting point	17°C	Partition coefficient	-2.03
Freezing point	18°C	Auto-ignition temperature	300-302°C
Initial boiling point and range	189°C	Decomposition temperature	Not available
Flash point	89°C Closed cup; 95°C Open cup	Evaporation rate	0.026 (n-butyl acetate=1)
Flammability (solid, gas)	Not available	Viscosity	2.0mPas or cP (@25°C)
Upper/lower flammability or explosive limits	Lower: 3.0-3.5% by volume Upper: 42-63% by volume		

Section 10: STABILITY AND REACTIVITY

Reactivity: Hazardous polymerization will not occur.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available

Conditions to avoid: Prolonged heating above 150°C can cause rapid, exothermic decomposition.

Incompatible materials: Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions alkali bromides.

Hazardous decomposition products: Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane.

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Section 11: TOXICOLOGICAL INFORMATION

Routes of entry/exposure: Skin, eyes, ingestion

Reproductive toxicity: No data available

Acute toxicity: Oral LD50 (rat): 14,500mg/kg; Skin LD50 (rat): 40,000mg/kg

Acute effects on skin: Causes skin irritation from short and long-term exposure.

Chronic effects on skin: No data available

Acute effects on eyes: Causes serious eye irritation from short and long-term exposure.

Chronic effects on eyes: No data available

Carcinogenicity: No data available

Germ cell mutagenicity: No data available

Symptoms of chemical exposure: Irritation and redness of skin and eyes

Section 12: ECOLOGICAL INFORMATION

Toxicity: Avoid release into the environment. Run-off from dilution water may cause pollution.

Persistence and biodegradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: No data available on the adverse effects of this material on the environment.

Section 13: DISPOSAL CONSIDERATIONS

Product waste treatment: Dispose of product waste in accordance with applicable national, regional, or local regulations.

Packaging waste treatment: Dispose of packaging waste in accordance with applicable national, regional, or local regulations.

Precautions: No data available

Section 14: TRANSPORT INFORMATION

DOT number: Accepted quantity: <119 gallons (not regulated)
Reportable quantity: >119 gallons (Combustible liquid)
Proper shipping name: Dimethyl Sulfoxide; Hazard Class 3, Packing group III

UN number: NA1933; Accepted quantity: <119 gallons (not regulated)
Reportable quantity: >119 gallons (Combustible liquid)
Proper shipping name: Dimethyl Sulfoxide; Hazard Class 3, Packing group III

IMDG code: Not regulated

IATA code: Not regulated



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Section 15: REGULATORY INFORMATION

U.S. federal and state regulations:

TSCA: CAS# 67-68-5, Dimethyl Sulfoxide

California proposition 65: Not listed as one of California's known or potential carcinogens.

CERCLA/SARA: Not listed

EU labeling: EC# 200-664-2

Section 16: OTHER INFORMATION

The information and recommendations in this Safety Data Sheet are believed to be accurate as of the date of issue. Nothing herein shall be deemed to create a warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this data to formulate the necessary safety precautions, as well as to decide the suitability of the material or product for any particular purpose. This product is intended for use only by persons having necessary technical skills and facilities for its proper handling. Since the conditions and manner are outside of the control of Cellular Technology Limited (CTL), CTL shall not be held liable for any damage or injury resulting from the use, misuse, or mishandling of the above product, or the information contained in this Safety Data Sheet.

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