

GHS Safety Data Sheet

SDS No. : VVR02LAEG

Date Issued : 2019/11/27

Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: VO(O-i-C₃H₇)₃ Vanadium(V) tri-i-propoxideoxide

Product	Purity	Form	Size or Shape
VVR03LB	99.999%(5N)	liquid	—

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.
 1-28, 5-chome, Chiyoda, Sakado-shi, Saitama Japan 350-0284
 Phone: +81-49-284-1511 Fax: +81-49-284-1351
 Emergency Phone : +81-49-284-1511

Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Serious eye damage/ eye irritation: Category 2 Specific target organ toxicity, single exposure: Category 3	No data available	Flammable liquids: Category 4

GHS Label: W



Pictograms or symbols:

Warning word: DANGER

Hazard information	Description of precaution
Combustible liquid Causes serious eye irritation May cause respiratory irritation	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. IN CASE OF FIRE: Wear protective gloves/eye protection/face protection. Use Carbon dioxide, dry chemical powder, alcohol resistance foam, dry sand to extinguish. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. Protect from sunlight. Store in a cool, dry and well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/ container in accordance with local/national regulations.

Section 3. Composition / information on ingredients

Chemical or common name: Vanadium triisopropoxide oxide
 Synonyms: Triisopropoxy vanadile, Triisopropyl vanadate
 Chemical formula: VO(O-i-C₃H₇)₃
 Single Substance or Compound: Single substance



High Purity Materials

KOJUNDO CHEMICAL LABORATORY CO.,LTD.

Composition:	100%
CAS #:	5588-84-1
RTECS#:	Not listed
TSCA inventory :	Not listed
EINECS:	2269974

Section 4. First aid measures

Eye contact:	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.
Skin contact:	Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues.
Inhalation:	Remove the exposed person immediately and provide fresh air. Get medical attention.
Ingestion:	Rinse mouth and throat with water. Get medical attention immediately.

Section 5. Fire fighting measures

Extinguishing media:	Carbon dioxide, dry chemical powder, alcohol resistance foam, dry sand. DO NOT use a direct water stream.
Fire fighting:	Flammable material. May be ignited by heat, sparks or flames. Contact with water may liberate flammable alcohols. Remove containers to safe place if possible. Use water spray to cool down nearby structures and containers. In case of fire, the product may liberate irritating or toxic gases/fume. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire

Section 6. Accidental release measures

Personal Precautions:

Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.

Environmental hazard precautions:

Shut off leak if without risk.
Prevent flow out to river, etc. so as not to badly affect.

Method for containment and cleaning up:

Remove all sources of ignition.
Avoid unnecessary contacts with spills.
Indoor leakage: Ventilate as much as possible until the cleaning is completed.
Outdoor leakage: Work from the windward and evacuate the leeward crowd.
Absorb or cover with vermiculite or other suitable absorbent, and dispose of DOT-approved waste containers as much as possible.
Carefully wash spill site with plenty of water after material pick up.

Section 7. Handling and storage

Precautions to be taken in handling:

Safe handling:	Handle the material in a dry inert gas atmosphere, utilizing glove bag or glove box. Keep away from moisture when handling. Keep container or bottle tightly closed when not in use. Avoid prolonged or repeated exposure. Handling worker wears suitable protective clothing. Keep away from heat, sparks and naked flame.
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Precautions to be taken in storage:

General precautions: Store the material in a sealed container.
 Store in a cool, dry, well ventilated and dark place away from incompatible materials.
 Keep away from any heat, sparks, and flames.

Section 8. Exposure controls / personal protection

Exposure guideline: ACGIH(2019) : No data available
 OSHA(2006) : No data available
 Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.
 Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, protective gloves.

Section 9. Physical and chemical properties

Appearance: Colorless liquid
 Chemical formula: VO(O-i-C₃H₇)₃
 Formula weight: 244.2
 Melting point: No data available
 Boiling point: 77 °C/266 Pa
 Density: 1.038 g/cm³
 Solubility in water: Decomposes
 Soluble in: Butanol, hexane, toluene and isopropanol
 Flammability: Flammable substance.
 Flash point: 69.5 °C
 Oxidation: None

Section10. Stability and reactivity

Stability: Stable in an inert gas atmosphere under room temperature.
 Decomposed by moisture in the air.
 Reactivity
 Condition to avoid: Heat, moisture and ignition sources.
 Incompatibility: Acids, strong oxidizing agents and water.

Section11. Toxicological information

Acute toxicity: GHS : No data available
 Skin corrosive / irritation: GHS : No data available
 Serious eye damage / irritation: GHS : Category 2 ; Causes serious eye irritation
 Respiratory sensitization: GHS : No data available
 Skin sensitization: GHS : No data available
 Germ cell mutagenicity: GHS : No data available
 Carcinogenicity: GHS : No data available
 Reproductive toxicity: GHS : No data available
 Specific target organ toxicity
 – single exposure: GHS : Category 3 ; May cause respiratory irritation
 – repeated exposure: GHS : No data available
 Aspiration hazard: GHS : No data available



Section 12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

– acute toxicity: GHS : No data available

– chronic toxicity: GHS : No data available

Hazardous to the ozone layer: GHS : No data available

No Freon or Halon

Fish toxicity: No data available

Degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Section 13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN number: 2810

IATA shipping name: TOXIC LIQUID, ORGANIC, N.O.S.

IATA classification: Hazardous Class 6.1 (Toxic substances)

IATA packing group: III

HS code: 2905-12

Marine pollution: None

Section 15. Regulatory information

TSCA inventory: Not listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

This SDS is only for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

