

1. PRODUCT NAME: Diisopropyl Ketone
2. CHEMICAL NAME: 2,4-dimethyl 3-pentanone
3. SYNONYMS: DIPK
4. CAS NUMBER: 000565-80-0
5. COMPOSITION: Diisopropyl ketone -
(000565-80-0), Weight%: 99.5 %
Isobutanol -
(000078-83-1), Weight%: 0.2 %
Unidentified -
(not applicable), Weight%: 0.3

IN CASE OF
TRANSPORT EMERGENCY
CONTACT CHEMTREC
USA: 1-800-424-9300
INTERNATIONAL: 1-703-527-3887

6. PROPERTIES: PHYSICAL FORM: Liquid
COLOR: colorless
ODOR: ketone
ODOR THRESHOLD: not available
SPECIFIC GRAVITY AT 20 C (68 F) (water = 1): 0.806
VAPOR PRESSURE AT 37 C (98 F): 13.3 mbar (10 mm Hg)
VAPOR DENSITY (AIR = 1): 3.9
EVAPORATION RATE: not available
BOILING POINT: 124 C (255 F)
MELTING POINT: not available
VISCOSITY: not available
SOLUBILITY IN WATER: negligible
PH: not available
OCTANOL/WATER PARTITION COEFFICIENT: not available
FLASH POINT (TAG CLOSED CUP): 20 C (68 F)
LOWER EXPLOSIVE LIMIT: not available
UPPER EXPLOSIVE LIMIT: not available
AUTOIGNITION TEMPERATURE (ASTM D 2155): 446 C (835 F)
SENSITIVITY TO MECHANICAL IMPACT: insensitive at 100 inch-pounds
SENSITIVITY TO STATIC DISCHARGE: not available

7. HAZARDS: STABILITY: Stable; however, forms peroxides of unknown stability.
INCOMPATIBILITY: Material can react violently with strong oxidizing agents.
HAZARDOUS POLYMERIZATION: will not occur

8. FIRE FIGHTING INFORMATION: EXTINGUISH MEDIA: water spray, dry chemical, carbon dioxide (CO₂), foam
SPECIAL FIRE-FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing. USE WATER WITH CAUTION. Since this material is lighter than water and relatively insoluble, the fire could easily be spread by the use of water in an area where the water could not be contained. Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire.
HAZARDOUS COMBUSTION PRODUCTS: carbon dioxide, carbon monoxide
USUAL FIRE AND EXPLOSION HAZARDS: Flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Forms peroxides of unknown suitability.



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9. PERSONAL PROTECTION MEASURES: VENTILATION: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.
RESPIRATORY PROTECTION: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn.
RESPIRATORY TYPE: Organic vapor. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.
EYE PROTECTION: It is a good industrial hygiene practice to minimize eye contact.
SKIN PROTECTION: It is a good industrial hygiene practice to minimize skin contact.
RECOMMENDED DECONTAMINATION FACILITIES: Eye bath, washing facilities.
10. FIRST AID PROCEDURES: INHALATION: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
EYES: In case of irritation from airborne exposure, move to fresh air. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
SKIN: Wash with soap and water. Get medical attention if symptoms occur.
INGESTION: Seek medical advice.
11. EXPOSURE LIMITS: ACGIH Threshold Limit Value (TLV): not established
OSHA (USA) Permissible Exposure Limit (PEL, 1989 Table Z-1-A values or section-specific standards): not established.
12. TOXICOLOGICAL INFORMATION: EFFECTS OF EXPOSURE:
GENERAL: Based on animal data and structure-activity relationships, this product is NOT expected to cause nervous system damage.
INHALATION: High vapor concentrations may cause drowsiness and irritation.
EYES: High vapor concentrations may cause irritation.
SKIN: expected to be a low hazard for usual industrial or commercial handling by trained personnel.
INGESTION: Expected to be a low ingestion hazard.
ACUTE TOXICITY DATA:
Oral LD-50 (male rat): 3536 mg/kg
Oral Ld-50 (female rat): 3536 mg/kg
Inhalation LC-50 (rat): >2765 ppm/6 hours (highest concentration tested)
Dermal Ld-50 (rat): >20 mL/kg (highest dose tested)
Skin irritation (guinea pig): slight
Repeated skin application (guinea pig): slight irritation
Skin sensitization (guinea pig): none
Eye irritation (rabbit, unwashed eyes): slight
Eye irritation (rabbit, washed eyes): slight
Definitions for the following sections: LOEL = lowest-observed-effect level, NOEL = no observed-adverse-effect level, NOEL = no-observed-effect level.
SUBCHRONIC TOXICITY DATA:
Inhalation study (4 weeks, rat): NOAEL = 386 ppm; LOEL = 1221 ppm (minor target organ effects: kidney, liver)
13. ECOLOGICAL INFORMATION: INTRODUCTION: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during the shipment of this material, and, in general, it is not meant to address discharges to sanitary sewers or publically owned treatment works.
SUMMARY: Data for this material have been used to estimate its environmental impact. It has the following properties: a low biochemical oxygen demand and little potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms. When diluted with a large amount of water,



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this material released directly or indirectly onto the environment is not expected to have a significant impact.

OXYGEN DEMAND DATA:

COD: 2.27 g oxygen/g

BOD-5 at 300-900 microliter(s)/1: 0.0 g oxygen/g

BOD-20 at 450 microliter(s)/1: 0.008 g oxygen/g

ACUTE AQUATIC EFFECTS DATA:

48-h EC-50 (daphnid): 320-480 mg/L

96-h LC-50 (fathead minnow): 320 mg/L

14. **DISPOSAL CONSIDERATIONS:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Mix with compatible chemical which is less flammable and incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.
15. **CARCINOGENIC PROPERTIES & NOTIFICATIONS:** California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): materials known to the State to cause cancer: none
California Propositions 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): materials known to the State to cause adverse reproductive effects: none
Carcinogenicity Classification (components present at 0.1% or more):
International Agency for Research on Cancer (IARC): not listed
American Conference of Governmental Industrial Hygienists (ACGIH): not listed
National Toxicology Program (NTP): not listed
Occupational Safety and Health Administration (OSHA): not listed
16. **TRANSPORT INFORMATION:** DOT (USA) Status: regulated
Class 3, packing group II
Air – International Civil Aviation Organization (ICAO)
ICAO Status: regulated
Class 3, packing group II
Sea – International Maritime Dangerous Goods (IMDG)
IMDG Status: regulated
Class 3, 2, packing group II
17. **HANDLING & STORAGE:** **PERSONAL PRECAUTIONARY MEASURES:** Avoid breathing high vapor concentrations. Use only with adequate ventilation.
PREVENTION OF FIRE AND EXPLOSION: Keep away from heat, sparks, and flame. Use only with adequate ventilation. Keep from contact with oxidizing materials. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids. Minimize exposure to air. After opening, purge container with nitrogen before re-closing. If peroxide formation is suspected, do not open or move container. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.
STORAGE: Keep container tightly closed. Keep container in a well-ventilated place. Store away from heat and light.
18. **ACCIDENTAL RELEASE MEASURES:** Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
For large spills: Use water spray to disperse vapors and flush spill area. Prevent runoff from entering drains, sewers, or streams.



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19. REGULATORY INFORMATION: This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
OSHA hazardous chemicals: diisopropyl ketone
This document has been prepared in accordance with the MSDS requirements of the WHMIS Controlled Products Regulation.
WHMIS (Canada) Ingredient Disclosure List: none
WHMIS (Canada) Status: controlled
WHMIS (Canada) controlled materials: diisopropyl ketone
WHMIS (Canada) Hazard Classification: B/2
Chemicals subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: none
SARA (U.S.A.) Sections 311 and 312 hazard classifications: fire hazard, immediate (acute) health hazard.
US Toxic Substances Control Act (TSCA): This product is listed on the TSCA inventory or otherwise complies with TSCA pre-manufacture notification requirements.
Canadian Environmental Protection Act (CEPA) and Domestic Substances List (DSL): This product is listed on the DSL or otherwise complies with CEPA new substance notification requirements.