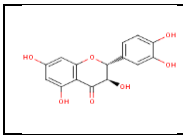
MATERIAL SAFETY DATA SHEET

	**Health 0**	**Fire 1**	**Reactivity 0**	**Personal Protection A**

Revision date: January 2017

Section 1: Chemical Product and Company Identification

Product Name: FLAVITOL (DIHYDROQUERCETIN)
CAS Number: 480-18-2 **EINECS Number:** 207-543-4
Product Brand name: FLAVIT™

RTECS: LK6920000
TSCA: TSCA 8(b) inventory: No products were found.
CI#: Not available.
Synonyms: (+)-Dihydroquercetin; (+)-Taxifolin; Taxifolin; trans-Dihydroquercetin; (2R,3R)-Dihydroquercetin;

Chemical Name: (2R,3R)-3,3',4',5,7-Pentahydroxyflavanone
Chemical Formula: $C_{15}H_{12}O_7$

Contact Information:
MANUFACTURER: **JSC NPF "FLAVIT"**
Company Registration No. (RUS) 5000001042.
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
DIHYDROQUERCETIN	480-18-2	100

Toxicological Data on Ingredients: DIHYDROQUERCETIN: ORAL (LD50): 985mg/kg [Mouse]. Russian Pharmacology and Toxicology Vol. 38, Pg. 213, 1975. DIHYDROQUERCETIN: ORAL (LD50): 1200mg/kg [Rat]. Japanese Journal of Pharmacology. Vol. 21, Pg. 377, 1971.

Section 3: Hazards Identification

Appearance: yellowish, crystalline powder. **Target Organs:** None.
Potential Acute Health Effects: MAY BE HARMFUL IF SWALLOWED.
Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.

Section 4: First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Serious Ingestion: Not available.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.
Auto-Ignition Temperature: Not available.
Flash Points: Not available.
NFPA Rating: Not published.
Flammable Limits: Not available.
Products of Combustion: These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.
Explosion Hazards in Presence of Various Substances: Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.
Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures
Special Remarks on Explosion Hazards: Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.
Protective Equipment: Self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
NFPA rating: NFPA Health: 1; NFPA Flammability: 1; NFPA Reactivity: 0

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Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill: Poisonous solid.
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.

Section 7: Handling and Storage

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust.
Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.
Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 20°C.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Hygiene measures: Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Eyes: Wear chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CRF 1910.133 or European Standard EN 166.
Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Respirators: Wear a NIOSH/ MSHA or European Standard EN 149 approved full-facepiece respirator.
Exposure Limits: Not available.
ACGIH: none listed
NIOSH: none listed
OSHA - FINAL PELs: none listed; OSHA Vacated PELs: none listed

Protective Clothing (Pictograms)

Section 9: Physical and Chemical Properties

Physical state and appearance: Crystalline Fine Powder.
Odor: Characteristic. **Taste:** Slightly bitter. **Color:** Yellowish
Molecular Weight: 304.3 g/mole
pH (1% soln/water): Not applicable.
Vapor Pressure: Not applicable.
Vapor Density: Not applicable.
Evaporation Rate: Not applicable.
Viscosity: Not available.
Boiling Point: Not available.
Melting Point: 234 to 240°C (453.2 to 464°F)
Decomposition Temperature: 240^{0}C
Critical Temperature: Not available.
Specific Gravity: Not available.
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionicity (in Water): Not available.
Dispersion Properties: See solubility in water, ethanol, acetone.
Solubility: Soluble in ethanol, acetone. Slightly soluble in hot water, diethyl ether. Insoluble in cold water. Soluble in acetic acid, pyrimidine.
Explosive properties: Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Section 10: Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Excess heat, dust generation, incompatible materials, air, light.
Incompatibility with various substances: Reactive with oxidizing agents, acids.
Corrosivity: Not available.
Special Remarks on Reactivity: Air sensitive, light sensesitive.
Special Remarks on Corrosivity: Not available.
Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Inhalation. Ingestion.
Toxicity to Animals: Acute oral toxicity (LD50): 985 mg/kg [Mouse]. **RTEKS#** LK6920000
Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
MUTAGENIC EFFECTS: Not available.
Reproduction toxicity: Not available.
Teratogenic effects: Not available.
Special Remarks on Toxicity to Animals: Not available.
Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Inhalation: May be harmful by inhalation. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed. It may affect behavior/central nervous system (muscle weakness, somnolence, respiration (respiratory depression, dyspnea).

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Section 12: Ecological Information

Ecotoxicity: Not available.
BOD5 and COD: Not available.
Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
RCRA D-Series Maximum Concentration of Contaminants: None listed
RCRA D-Series Chronic Toxicity Reference Levels: None listed
RCRA F-Series: None listed
RCRA P-Series: None listed
RCRA U-Series: None listed
Not listed as a material banned land disposal according to RCRA.

Section 14: Transport Information

DOT Classification: CLASS 6 **Hazard Symbols:** H
Classification: Harmful Solid, organic, n.o.s. UNNA: 2811 Packaging Group: III
Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

US Federal and State Regulations: No products were found.
HCS Classification: Not controlled under the HCS (United States).
TSCA: No products were found.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.
Other Regulations: OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.
Other Classifications:
WHMIS (Canada): Not controlled under WHMIS (Canada). No products were found.
DSCL (EEC): R20/22- Harmful by inhalation and if swallowed. S36- Wear suitable protective clothing.
HMIS (U.S.A.):
Health Hazard: 0
Fire Hazard: 1
Reactivity: 0
Personal Protection: A
National Fire Protection Association (U.S.A.):
Health: 0
Flammability: 1
Reactivity: 0
Specific hazard:
Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References: Not available.
Other Special Considerations: Product was examined for compilation to SanPin 2.3.2.1078-01(Sanitary and epidemiological rules and normatives) issued by MINISTRY OF PUBLIC HEALTH AND SOCIAL DEVELOPMENT. Product was expertise by Institute of Nutrition of Russian Academy of Sciences. Product was approved for food additive applications in Russian Federation.

Created: January 2017

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