

SAFETY DATA SHEET



GlaxoSmithKline

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Material	ZIAGEN ORAL SOLUTION
Synonyms	ZIAGEN ORAL SOLUTION 20 MG/ML * ZIAGEN ORAL SOLUTION 100 MG/5 ML * ZIAGEN DRANK * ZIAGEN ORAL LOSNING * ZIAGEN ORAL OPLOSNING * ZIAGEN ORAL SOLUSYON * ZIAGEN SKIDUMS IEKSKIGAI LIETOSANAI * ZIAGEN SOLUCAO ORAL * ZIAGEN SOLUCION * ZIAGEN SOLUCION ORAL * ZIAGEN SOLUTIE * ZIAGEN SOLUTION BUVALE * ZIAGEN SOLUZIONE ORALE * ZIAGEN TRINKLOSUNG * ZIAGEN LOSUNG ZUM EINNEHMEN * ZIAGENA VIRAL SOLUTION * NDC NO. 0173-0664-00 * ABACAVIR HEMISULPHATE, FORMULATED PRODUCT
Company Name	GlaxoSmithKline, Corporate Environment, Health & Safety 980 Great West Road Brentford, Middlesex TW8 9GS UK UK General Information: +44-20-8047-5000 Transport Emergency (EU) +44-1865-407333 Medical Emergency +1-612-221-3999, Ext 221 Information and Advice: US number, available 24 hours Multi-language response GlaxoSmithKline, Corporate Environment, Health & Safety One Franklin Plaza, 200 N 16th Street Philadelphia, PA 19102-1225 US US General Information: +1-888-825-5249 Transport Emergency (non EU) +1-703-527-3887 US number, available 24 hours Multi-language response

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS RN	Percentage
ABACAVIR HEMISULPHATE	188062-50-2	3.98
NON-HAZARDOUS INGREDIENTS	Unassigned	96.02

3. HAZARDS IDENTIFICATION

Fire and Explosion This product is classified as non-flammable.

* Health	<p>Caution - Pharmaceutical agent.</p> <p>Handling this product in its final form presents minimal risk from occupational exposure.</p> <p>Health effects information is based on hazards of components.</p> <p>Severe eye irritant.</p> <p>May produce mutagenic effects in human cells.</p> <p>Limited evidence of carcinogenic effect.</p> <p>May produce allergic skin reactions.</p> <p>Possible effects of overexposure in the workplace include: symptoms of hypersensitivity (such as skin rash, hives, itching); gastrointestinal distress; headache; fatigue.</p> <p>Exposure might occur via ingestion; skin; eyes.</p>
Environment	No information is available about the potential of this product to produce adverse environmental effects.

4. FIRST-AID MEASURES

Ingestion	Never attempt to induce vomiting. Do not attempt to give any solid or liquid by mouth if the exposed subject is unconscious or semi-conscious. Wash out the mouth with water. If the exposed subject is fully conscious, give plenty of water to drink. Obtain medical attention.
Inhalation	Physical form suggests that risk of inhalation exposure is negligible.
Skin Contact	Using appropriate personal protective equipment, remove contaminated clothing and flush exposed area with large amounts of water. Obtain medical attention if skin reaction occurs, which may be immediate or delayed.
Eye Contact	Wash immediately with clean and gently flowing water. Continue for at least 15 minutes. Obtain medical attention.

NOTES TO HEALTH PROFESSIONALS

* Medical Treatment	Medical treatment in cases of overexposure should be treated as an overdose of an anti-viral agent. Treat according to locally accepted protocols. For additional guidance, refer to the current prescribing information or to the local poison control information centre. Because of the potential for acute or delayed eye damage, consider referral to an ophthalmologist. In allergic individuals, exposure to this material may require treatment for initial or delayed allergic symptoms and signs. This may include immediate and/or delayed treatment of anaphylactic reactions.
Medical Conditions Caused or Aggravated by Exposure	Refer to prescribing information for detailed description of medical conditions caused by or aggravated by overexposure to this product.
Antidotes	For the latest information, refer to the local poison control information centres.

5. FIRE-FIGHTING MEASURES

Fire and Explosion Hazards	Not expected for the product, although the packaging is combustible.
Extinguishing Media	No special requirements needed.
Special Firefighting Procedures	<p>For single units (packages): No special requirements needed.</p> <p>For larger amounts (multiple packages/pallets) of product: Since toxic, corrosive or flammable vapours might be evolved from fires involving this product and associated packaging, self contained breathing apparatus and full protective equipment are recommended for firefighters.</p> <p>If leakage of this material occurs, contain and collect for later disposal.</p>

Hazardous Combustion Products Toxic, corrosive or flammable thermal decomposition products are expected when the product is exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Wear protective clothing and equipment consistent with the degree of hazard.

Environmental Precautions Prevent entry into waterways, sewers, surface drainage systems and poorly ventilated areas.

Clean-up Methods Spread an inert absorbent on the spill and place in a suitable, properly labelled container for recovery or disposal.

Decontamination Procedures No specific decontamination or detoxification procedures have been identified for this product.

7. HANDLING AND STORAGE

HANDLING

General Requirements No special control measures required for the normal handling of this product. Normal room ventilation is expected to be adequate for routine handling of this product.

STORAGE

No storage requirements necessary for occupational hazards. Follow product information storage instructions to maintain efficacy.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT ABACAVIR HEMISULPHATE

GSK Occupational Hazard Category 2

GSK Occupational Exposure Limit 600 mcg/m³ (8 HR TWA) CARCINOGEN, SKIN SENSITISER

ENGINEERING CONTROLS

*** Exposure Controls** An Exposure Control Approach (ECA) is established for operations involving this material based upon the OEL/Occupational Hazard Category and the outcome of a site- or operation-specific risk assessment. Refer to the Exposure Control Matrix for more information about how ECA's are assigned and how to interpret them.

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection Wear approved safety glasses with side shields if eye contact is possible.

Other Equipment or Procedures Wear appropriate clothing to avoid skin contact. Eye wash and shower stations should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Clarity Clear to opalescent.

Colour Yellow.

Physical Form Liquid.

Flash Point Non-flammable.

10. STABILITY AND REACTIVITY

Stability This product is expected to be stable.

Conditions to Avoid None for normal handling of this product.

11. TOXICOLOGICAL INFORMATION

Oral Toxicity	Not expected to be toxic following ingestion.
Inhalation Toxicity	No studies have been conducted.
Skin Effects	Irritation is not expected following direct contact.
* Eye Effects	Severe irritation might occur following direct contact with eyes. Permanent damage occurred after direct application. Assessment based upon effects of individual components.
Target Organ Effects	No specific target organ effects have been identified.
Sensitisation	Allergic skin reactions might occur following dermal exposure.
* Genetic Toxicity	Contains a component that produced mutagenicity in laboratory tests.
* Carcinogenicity	Abacavir, the active substance in this product, produced carcinogenic effects in a lifetime study in mice; a lifetime study in rats. High concentrations or doses administered over an extended period of time were required to produce adverse effects.
Reproductive Effects	Not expected to produce adverse effects on fertility or development under occupational exposure conditions.
* Pharmacological Effects	This preparation contains ingredient(s) with the following activity: a nucleoside analogue. Adverse effects of overexposure might include: symptoms of hypersensitivity (such as skin rash, hives, itching); gastrointestinal distress; headache; fatigue.
Other Adverse Effects	None known for occupational exposure.

12. ECOLOGICAL INFORMATION

Summary This material contains an active pharmaceutical ingredient that has been tested and which may be harmful if released directly to the environment. Consult the MSDS of the active ingredient for specific information about potential environmental effects. Appropriate precautions should be taken to limit release of this material to the environment. Local regulations and procedures should be consulted prior to environmental release.

Specific information on the active pharmaceutical ingredient is provided below.

ECOTOXICITY

Aquatic

Activated Sludge Respiration

This material contains an active pharmaceutical ingredient that is not toxic to activated sludge microorganisms.

IC50: > 71.4 mg/l, 3 Hours, Activated sludge

Algal

This material contains an active pharmaceutical ingredient that is harmful to algae.

IC50: 57.4 mg/l, 72 Hours, Selenastrum capricornutum, green algae, Static test

NOEL: 30 mg/l, 72 Hours, Selenastrum capricornutum, green algae, Static test

Daphnid

This material contains an active pharmaceutical ingredient that is not toxic to daphnids.

EC50: 139 mg/l, 48 Hours, Daphnia magna, Static test

NOEL: 70.9 mg/l, 48 Hours, Daphnia magna, Static test

Fish This material contains an active pharmaceutical ingredient that is not toxic to fish.

Adult Oncorhyncus mykiss, rainbow trout

EC50: > 120 mg/l, 96 Hours, Static test

Adult Oncorhyncus mykiss, rainbow trout

NOEL: 120 mg/l, 96 Hours, Static test

MOBILITY

Solubility This material contains an active pharmaceutical ingredient that for environmental fate predictions has solubility in water.

Volatility This material contains an active pharmaceutical ingredient that will not readily enter into air from water.

Henry's Law Constant 8.50E-12 atm m³/mol, Measured at 25 C

Adsorption This material contains an active pharmaceutical ingredient that is not likely to adsorb to soil or sediment if released directly to the environment. This material contains an active pharmaceutical ingredient that is not likely to adsorb to sludge or biomass if released directly to the environment.

Soil Sediment Sorption 2.17 to 2.97, Measured
(log Koc):

Sludge Biomass 1.89 to 2.7 Estimated

Distribution Coefficient
(log Kd):

Partitioning This material contains an active pharmaceutical ingredient with octanol/water partition coefficient data that suggests that for environmental fate predictions the active pharmaceutical ingredient will not have the tendency to distribute into fats.

PERSISTENCE/DEGRADATION

Hydrolysis This material contains an active pharmaceutical ingredient that has been shown to be chemically stable in water. Hydrolysis is unlikely to be a significant depletion mechanism.

Half-Life, Neutral: > 1 Years, Measured

Photolysis This material contains an active pharmaceutical ingredient that is unlikely to undergo photodegradation.

UV/Visible Spectrum: 285 nm at pH 7

Biodegradation This material contains an active pharmaceutical ingredient that is not readily biodegradable but is inherently biodegradable (as defined by 1993 OECD Testing Guidelines) and is not expected to persist in the environment.

Aerobic - Inherent

Percent Degradation: 96 %, 2 days, Modified Zahn-Wellens, Activated sludge

BIOACCUMULATION

This material contains an active pharmaceutical ingredient that will not have a tendency to bioaccumulate in the food chain.

13. DISPOSAL CONSIDERATIONS

Disposal Recommendations Collect for recycling or recovery if possible. The disposal method for rejected products/returned goods must ensure that they cannot be re-sold or re-used.

Regulatory Requirements Observe all local and national regulations when disposing of this product.

14. TRANSPORT INFORMATION

The SDS should accompany all shipments for reference in the event of spillage or accidental release. Only authorised persons trained and competent in accordance with appropriate national and international regulatory requirements may prepare dangerous goods for transport.

UN Classification and Labelling

Transport Information Transportation and shipping of this product is not restricted. It has no known, significant hazards requiring special packaging or labelling for air, maritime, US or European ground transport purposes.

15. REGULATORY INFORMATION

The information included below is an overview of the major regulatory requirements. It should not be considered to be an exhaustive summary. Local regulations should be consulted for additional requirements.

EU Classification and Labelling

Exempt from requirements of EU Dangerous Preparations directive - product regulated as a medicinal product, cosmetic product or medical device.

US OSHA Standard (29 CFR Part 1910.1200)

Classification This product is classified as hazardous according to the OSHA Hazard Communication Standard.

Other US Regulations

TSCA Status Exempt

16. OTHER INFORMATION

References GSK Hazard Determination

Date Approved/Revised 05-Jun-2007

SDS Version Number 7

SDS Sections Updated

Sections

EXPOSURE CONTROLS / PERSONAL PROTECTION
FIRST-AID MEASURES

HAZARDS IDENTIFICATION

TOXICOLOGY INFORMATION

Subsections

Exposure Controls
Antidotes
Eye Contact
Health Surveillance Procedures
Ingestion
Inhalation
Medical Conditions Caused or Aggravated by Exposure
Medical Treatment
Skin Contact
Conditions Aggravated by Exposure
Environment
Eye Contact
Health
Ingestion
Inhalation
Overview
Skin Contact
Summary
Carcinogenicity
Eye Effects

SDS Sections Updated**Sections**

TOXICOLOGY INFORMATION

Subsections

Genetic Toxicity

Inhalation Toxicity

Oral Toxicity

Other Adverse Effects

Pharmacological Effects

Reproductive Effects

Sensitisation

Skin Toxicity

Target Organ Effects

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create any warranty, express or implied. It is the responsibility of the user to determine the applicability of this information and the suitability of the material or product for any particular purpose.