

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier				
Trade name or designation of the mixture	IMURAN TABLETS			
Registration number	-			
Synonyms	IMURAN 25 MG TABLETS * IMURAN 50 MG TABLETS * IMUREK FILMTABLETTEN * IMUREL TABLETS * AZATHIOPRINE, FORMULATED PRODUCT			
Issue date	06-November-2014			
Version number	13			
Revision date	06-November-2014			
1.2. Relevant identified uses of	the substance or mixture and uses advised against			
Identified uses	Medicinal Product.			
	This safety data sheet is written to provide health, safety and environmental information for people handling this formulated product in the workplace. It is not intended to provide information relevant to medicinal use of the product. In this instance patients should consult prescribing information/package insert/product label or consult their pharmacist or physician. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate safety data sheet for each ingredient.			
Uses advised against	No other uses are advised.			
1.3. Details of the supplier of the	e safety data sheet			
	GlaxoSmithKline UK 980 Great West Road Brentford, Middlesex TW8 9GS UK UK General Information (normal business hours): +44-20-8047-5000 Email Address: msds@gsk.com Website: www.gsk.com			
1.4. Emergency telephone number				
	TRANSPORT EMERGENCIES::UK In-country toll call:+(44)-870-8200418International toll call:+1 703 527 3887available 24 hrs/7 days; multi-language response			
SECTION 2: Hazards iden	tification			
2.1. Classification of the substa	nce or mixture			

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

Classification according to Regulation (EC) No 1272/2008 as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

2.3. Other hazards Caution - Pharmaceutical agent. See section 11 for additional information on health hazards.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

%	CAS-No.	/ EC No.	REACH Registration No.	INDEX No.	Notes
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General information							
Chemical name		%	CAS-No. / I	EC No.	REACH Registration No.	INDEX No.	Notes
AZATHIOPRINE		31.4 - < 31.8	446-86 207-175		-	-	
Classification:	DSD:	Carc. Cat. 1;R4 Xn;R22-48, Xi;F			Muta. Cat. 2;R46, Repr. Cat.	2;R61,	
	CLP:				, Skin Sens. 1;H317, Eye Irri arc. 1A;H350, Repr. 1B;H36		
Starch		10 - < 20	9005-25 232-679		-	-	
Classification:	DSD:	-					
	CLP:	-					
HYDROXYPROPYL MET CELLULOSE	HYL	1 - < 3	9004-65	5-3	-	-	
Classification:	DSD:	-					
	CLP:						
MAGNESIUM STEARATI		< 1	557-04	0			
		-	209-150		-	-	
Classification:	DSD:						
	CLP:	-					
Titanium dioxide		< 0.2	13463-6 236-675		-	-	
Classification:	DSD:	-					
	CLP:	-					
Other components below	reporta	ble levels 40 -	< 50				
List of abbreviations and sy CLP: Regulation No. 1272 DSD: Directive 67/548/EE M: M-factor vPvB: very persistent and PBT: persistent, bioaccum #: This substance has bee	2/2008. EC. Very bi nulative	oaccumulative so and toxic substa	ubstance. ince.	posure	limit(s).		
Composition comments			-	-	displayed in section 16.		
SECTION 4: First aid m	ieasu	res					
General information	v		Ensure that me	edical p	well, seek medical advice im ersonnel are aware of the m		
4.1. Description of first aid n	neasur	es					
Inhalation	s		p or persist. U	nder no	t, trained personnel should g ormal conditions of intended		
Skin contact		mmediately flush Set medical atten			ater. Take off contaminated c	clothing and wash	h before reus
Eye contact					or at least 15 minutes and co	nsult a physician	
Ingestion	а		ur, call a poiso	n contr	nly if the person is conscious ol centre immediately. Do no		
I.2. Most important symptor and effects, both acute and lelayed					roduce: symptoms of hypers nausea, vomiting, increased		
4.3. Indication of any immediate medical attention and special treatment neede	n a		e, refer to the		d. Treat according to locally a t prescribing information or to		

SECTION 5: Firefighting measures

General fire hazards	No unusual fire or explosion hazards noted.
5.1. Extinguishing media Suitable extinguishing media	Water. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
5.2. Special hazards arising from the substance or mixture	During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
6.4. Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
7.3. Specific end use(s)	Medicinal Product.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

GSK	_		
Components	Туре	Value	Note
AZATHIOPRINE (CAS 446-86-6)	8 HR TWA	3 mcg/m3	
,	OHC	4	Carcinogen
		4	Reproductive hazard
		4	SKIN SENSITISER
HYDROXYPROPYL METHYL CELLULOSE (CAS 9004-65-3)	OHC	1	
Ireland. Occupational Exposure Limits			
Components	Туре	Value	Form
MAGNESIUM STEARATE (CAS 557-04-0)	TWA	10 mg/m3	
Starch (CAS 9005-25-8)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.

Ireland. Occupational Expos Components	Туре	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Biological limit values	No biological exposure limits noted for the ingr	edient(s).	
Recommended monitoring procedures	Follow standard monitoring procedures.		
Derived no-effect level (DNEL)	Not available.		
Predicted no effect concentrations (PNECs)	Not available.		
Exposure guidelines			
8.2. Exposure controls			
Appropriate engineering controls	General ventilation normally adequate. An Exp operations involving this material based upon t outcome of a site- or operation-specific risk as	he OEL/Occupationa	
Individual protection measures,	such as personal protective equipment		
General information	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Follow all local regulations if personal protective equipment (PPE) is used in the workplace.		
Eye/face protection	If contact is likely, safety glasses with side shields are recommended. (e.g. EN 166). Not normally needed.		
Skin protection			
- Hand protection	For prolonged or repeated skin contact use sui resistant protective gloves (EN 374) with a pro- normally needed.		
- Other	Wear suitable protective clothing as protection splashes, EN ISO 13982 for dust). Not normall		contamination. (EN 14605 for
Respiratory protection	When workers are facing concentrations above certified respirators. Where breathable aerosol gases/vapours of organic, inorganic, acid inorg EN 14387). No personal respiratory protective	s/dust are formed, us janic, alkaline compo	e suitable combination filter for unds and toxic particles (eg.
Thermal hazards	Wear appropriate thermal protective clothing, w	when necessary.	
Hygiene measures	Always observe good personal hygiene measu and before eating, drinking, and/or smoking. F equipment to remove contaminants. For advice from a qualified environment, health and safety	Routinely wash work of on suitable monitori	clothing and protective
Environmental exposure control	s		
Hazard guidance and control recommendations	Environmental manager must be informed of a	II major releases.	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Appearance	
Physical state	Solid.
Form	Tablet.
Colour	Not available.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or expl	osive limits
Flammability limit - lower (%)	Not available.

Flammability limit - upper (%)	Not available.	
Vapour pressure	Not available.	
Vapour density	Not available.	
Relative density	Not available.	
Solubility(ies)		
Solubility (water)	Not available.	
Solubility (other)	Not available.	
Partition coefficient (n-octanol/water)	Not available.	
Auto-ignition temperature	Not available.	
Decomposition temperature	Not available.	
Viscosity	Not available.	
Explosive properties	Not available.	
Oxidizing properties	Not available.	
9.2. Other information	No relevant additional information available.	

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	None known. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

SECTION 11: Toxicological information

General information

Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of ex	xposure
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Health injuries are not known or expected under normal use.
Eye contact	Health injuries are not known or expected under normal use.
Ingestion	Health injuries are not known or expected under normal use. May be harmful if swallowed.
Symptoms	Accidental exposure or contact might produce: nausea, vomiting, symptoms of hypersensitivity (such as skin rash, hives, itching, and difficulty breathing), increased susceptibility to infection.

11.1. Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel. May be harmful if swallowed.

Components	Species	Test results
AZATHIOPRINE (CAS 446	6-86-6)	
Acute		
Oral		
LD50	Rat	400 mg/kg
HYDROXYPROPYL METH	HYL CELLULOSE (CAS 9004-65-3)	
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
MAGNESIUM STEARATE	(CAS 557-04-0)	
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
Titanium dioxide (CAS 134	463-67-7)	
Acute		
Inhalation		
LC50	Rat	6820 mcg/m3

Rat Rat	> 24 g/kg 8.6 mg/m3, 1 years TiO2 accumulated in interstitial macrophages, aggregated interstitial cells and particle laden
Rat	8.6 mg/m3, 1 years TiO2 accumulated in interstitial macrophages, aggregated
	interstitial macrophages, aggregated
	interstitial macrophages, aggregated
	interstitial macrophages, aggregated
-	macrophrages in lymphoid tissue.
Rat	250 mg/m3, 2 years Highest dose
	5 mg/m3, 24 months
Rat	0.1 - 35 mg/m3, 4 weeks Mild macrophage
	hyperplasia, no change in bronchio-alveolar lavage fluid.
Guinea pig	26 mg/m3, 3 weeks No evidence of significant inflammation in respiratory tract.
Rat	100000 ppm, 14 Day Dietary study, highest dose tested.
Rat	3.2 - 20 mg/m3, 8 min Accumulation of TiO2 in macrophages and evidence of pulmonary inflammation.
P.I.I. value E	0, Literature data Result: Non-irritant Species: Guinea pig 0, Literature data Result: Non-irritant Species: Human Acute dermal irritation; OECD 404, Literature data Result: Non-irritant Species: Rabbit 0 m or expected under normal use. OECD 405, Literature data Result: Mild irritant Species: Rabbit 4
_	Recovery Period: 2 days
No studies have been cond	ucted.
May cause an allergic skin r	reaction.
isson and Kligman) IHYL CELLULOSE	Result: negative Species: Guinea pig
	5 % Optimisation Test, Literature data - Vehicle: petrolatum Result: negative Species: Guinea pig
	Guinea pig Rat Rat Rat based on additional compor Health injuries are not know Health injuries are not know Se - Intact No studies have been cond May cause an allergic skin i sson and Kligman)

		Result: negative Species: Human
Germ cell mutagenicity	May cause genetic defects.	
Mutagenicity		
AZATHIOPRINE		Ames Assay, GLP assay; Literature data Result: positive
TITANIUM DIOXIDE		Ames, Literature data Result: negative
		Micronucleus Assay in vitro, CHO cells, Literature data
		Result: negative Micronucleus Assay in vitro, cultured human peripheral
		lymphocytes, Literature data Result: positive
AZATHIOPRINE		Micronucleus Test, GLP assay; Literature data Result: positive
TITANIUM DIOXIDE		Syrian Hamster Embryo (SHE) cell transformation assay Result: negative
		WIL2-NS HPRT/ t-Thioguanidine - Human B-Cell lymphoblastoid, Literature data Result: positive
Carcinogenicity	Contains a material (Azathiop	rine) classified as a carcinogen by external agencies.
TITANIUM DIOXIDE		0.5 mg/m3, Literature data Result: negative
		Species: Rat
		Test Duration: 24 months 0.72 - 14.8 mg/m3, Literature data
		Result: negative
		Species: Mouse 10 - 250 mg/m3, Dietary study - Literature data.
		Result: Inflammation at all doses with alveolar/bronchiolar adenoma at the highest concentration.
		Species: Rat
		Test Duration: 24 months 25000 - 50000 ppm, Dietary study
		Result: negative
		Species: Mouse 25000 - 50000 ppm, Dietary study - Literature data.
		Result: negative
		Species: Rat 7.2 - 14.8 mg/m3, Literature data
		Result: Lung tumour Species: Rat
		Test Duration: 24 months
AZATHIOPRINE		Literature search Result: positive
IARC Monographs. Overall I	Evaluation of Carcinogenicity	
AZATHIOPRINE (CAS 44 Titanium dioxide (CAS 13		1 Carcinogenic to humans. 2B Possibly carcinogenic to humans.
Reproductive toxicity	May damage fertility or the un	
Reproductivity	, , ,	
AZATHIOPRINE		Literature search Result: Positive for teratogenicity, fertiltiy effects and may affect the quality of breast milk.
Specific target organ toxicity - single exposure	Not available.	
Specific target organ toxicity - repeated exposure	Causes damage to organs thr	ough prolonged or repeated exposure.
AZATHIOPRINE		Literature search Organ: Immune system, Bone marrow and formation of blood cells, Liver, Kidney
Aspiration hazard	Not likely, due to the form of the	he product.
Mixture versus substance information	No information available.	
Other information	Caution - Pharmaceutical age adverse effects.	nt. Occupational exposure to the substance or mixture may cause

Patch test, Literature data

SECTION 12: Ecological information

12.1. Toxicity	Not expec		aquatic organisms.	
Components		Species		Test results
AZATHIOPRINE (CAS 446-	-86-6)			
Acute		A stiveted alud	~~	> 1000 mg// 2 hours
A	IC50	Activated slud	ge	> 1000 mg/l, 3 hours
Aquatic Acute				
Algae	EC50	Green algae (Scenedesmus	> 100 mg/l, 72 hours Static test
/ "guo	2000	subspicatus)		
	NOEC	Green algae (subspicatus)	Scenedesmus	100 mg/l, 72 hours Static test
Crustacea	EC50	Water flea (Da	iphnia magna)	> 100 mg/l, 48 hours Static test
	NOEC	Water flea (Da	iphnia magna)	> 100 mg/l, 48 hours Static test
HYDROXYPROPYL METH' Aquatic	YL CELLULOSE ((CAS 9004-65-3)		
<i>Acute</i> Fish	EC50	Fish		> 100 mg/l . 06 hours
Fish	EC50	F1911		> 100 mg/l, 96 hours
MAGNESIUM STEARATE (Aquatic	UAS 557-04-0)			
Aqualic				
Fish	EC50	Orange-red kil latipes)	lfish (Adult Oryzias	130 mg/l, 96 hours
Titanium dioxide (CAS 1346	63-67-7)			
Aquatic				
Acute				
Crustacea	EC50	Water flea (Da	aphnia magna)	> 1000 mg/l, 48 hours Static test
degradability Photolysis Half-life (Photolys	sis-atmospheric)			
MAGNESIUM STE UV/visible spectro MAGNESIUM STE	ARATE um wavelength		17 Hours Estimated	
Biodegradability			2101111	
•	ion (Aerobic biod	egradation-inherer	nt)	
AZATHIOPRINE	•	0	4 %, 28 days Modified	d Zahn-Wellens, DOC removal.,
			Activated sludge	d Zahn-Wellens, primary
				of parent., Activated sludge
MAGNESIUM STE			77 %, 28 days BOD	
Percent degradat	ion (Aerobic biod	egradation-ready)	11 %, 28 days Modifi	ed Sturm test
MAGNESIUM STE	ARATE		95 %, 22 days Sturm	
Percent degradat MAGNESIUM STE		egradation-soil)	50 %, 13 days	
12.3. Bioaccumulative pot	ential			
Partition coefficient n-octanol/water (log Kow) AZATHIOPRINE			-0.787	
HYDROXYPROPYL M	ETHYL CELLULOS	SE	-5	
Bioconcentration factor (E HYDROXYPROPYL M MAGNESIUM STEARA	ETHYL CELLULOS	SE	3.2 Estimated > 9999 Estimated	
12.4. Mobility in soil				
Adsorption				
Soil/sediment sor MAGNESIUM STE			5.86 Estimated	
Material name: IMURAN TABL	FTS			SDS IRELA

12.5. Results of PBT

and vPvB assessment

Volatility Henry's law AZATHIOPRINE HYDROXYPROPYL METHYL CELLULOSE Not available.

0 atm m³/mol, 25 C Estimated 0 atm m3/mol Estimated

Not available. 12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods **Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground. Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not **Disposal methods/information** discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable regulations. Dispose in accordance with all applicable regulations. Special precautions

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

ΙΑΤΑ

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

MARPOL Annex II applies to liquids used in a ship's operation that pose a threat to the marine 14.7. Transport in bulk according to Annex II of environment. These materials may not be transported in bulk. MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I Not listed Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II Not listed Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended Not listed Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended Not listed. Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended Not listed Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended Not listed Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended Not listed

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations	Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.
15.2. Chemical safetv	No Chemical Safety Assessment has been carried out.

15.2. Chemical assessment

Other regulations

SECTION 16: Other information

List of abbreviations	Not available.
References	GSK Hazard Determination
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any statements or R-phrases and H-statements under Sections 2 to 15	 R22 Harmful if swallowed. R36 Irritating to eyes. R37 Irritating to respiratory system. R38 Irritating to skin. R43 May cause sensitization by skin contact. R45 May cause cancer. R46 May cause heritable genetic damage. R48 Danger of serious damage to health by prolonged exposure. R61 May cause harm to the unborn child. H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause genetic defects. H360 May cause cancer. H360 May damage fortility or the unborn child. H372 Causes damage to organs through prolonged or repeated exposure.
Revision information	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients Exposure Controls / Personal Protection: Physical & Chemical Properties: Ecological Information: Ecotoxicity Transport Information: Agency Name and Packaging Type/Transport Mode Selection Regulatory Information: Risk Phrases - Class. GHS: Classification
Training information	Follow training instructions when handling this material.
Disclaimer	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.