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

1.1 Product identifier

Product number	140650
Product name	Iriodin® 9307 Star Gold SW

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	: Colouring agent

1.3 Details of the supplier of the safety data sheet

Company	Surface Materials Limited 167-169 Great Portland Street 5th Floor, London W1W 5PF
Responsible Department	SDS_inquiries@susonity.com

1.4 Emergency telephone number

+44 20 3807 3798 CHEMTREC (GB) 1-703-741-5970 CHEMTREC (International)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Additional Labelling

EUH210	Safety data sheet available on request.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mica coated with:

titanium dioxide, ferric oxide
tin oxide
auxiliaries

Components
Remarks : No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : fresh air. Consult doctor if feeling unwell.

In case of skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact : rinse out with plenty of water.

Remove contact lenses.

If swallowed : make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : We have no description of any toxic symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Not combustible. Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	:	none

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8. Indications about waste treatment see section 13.

6.2 Environmental precautions

Environmental precautions	:	No special precautionary measures necessary.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Observe label precautions.
Hygiene measures	:	Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container.
Further information on storage conditions	:	Tightly closed. Dry.

Risks from decomposition products: see section 10.3

Recommended storage temperature : If there is a suitable storage temperature range to be complied with, product label contains the relevant information accordingly.

7.3 Specific end use(s)

Specific use(s) : Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
mica (muscovite)	12001-26-2	TWA (Inhalable)	10 mg/m3	GB EH40
		TWA (Respirable fraction)	0.8 mg/m3	GB EH40
		TWA (Respirable particulate matter)	0.1 mg/m3	ACGIH
titanium(IV) oxide	13463-67-7	TWA (inhalable dust)	10 mg/m3	GB EH40
		TWA (Respirable dust)	4 mg/m3	GB EH40
		TWA (Respirable particulate matter)	2.5 mg/m3 (Titanium dioxide)	ACGIH
		TWA (Respirable particulate matter)	0.2 mg/m3 (Titanium dioxide)	ACGIH
silicon dioxide	7631-86-9	TWA (inhalable dust)	6 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits,				

	depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	2.4 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
iron(III) oxide	1309-37-1	TWA (inhalable dust)	10 mg/m3	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose			

	and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	4 mg/m3	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable particulate matter)	5 mg/m3	ACGIH
General threshold limit value for dust	42945	TWA (Inhalable)	10 mg/m3	GB EH40
		TWA (Respirable fraction)	4 mg/m3	GB EH40

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Personal protective equipment

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled and must meet the specifications of a standard EN/ISO/DIN. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye protection	:	Safety glasses
Hand protection	:	not required
Respiratory protection	:	required when dusts are generated.
Filter type	:	Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	powder
Colour	:	gold
Odour	:	odourless
Odour Threshold	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flammability	:	not combustible
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	(20 °C) practically insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	2.8 - 3.0 g/cm3 (20 °C)
Bulk density	:	360 - 400 kg/m3
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	5 - 40 µm Particle size

9.2 Other information

Explosives	:	Not classified as explosive.
Oxidizing properties	:	none

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions : no information available

10.4 Conditions to avoid

Conditions to avoid : no information available

10.5 Incompatible materials

Materials to avoid : no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product:

Acute oral toxicity	:	No data available
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Product:

No data available

Serious eye damage/eye irritation

Product:

No data available

Respiratory or skin sensitisation

Product:

No data available

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	No data available
Genotoxicity in vivo	:	No data available

Carcinogenicity

Product:

No data available

Reproductive toxicity

Product:

Effects on fertility	:	No data available
Effects on foetal development	:	No data available

STOT - single exposure

Product:

No data available

STOT - repeated exposure

Product:

No data available

Repeated dose toxicity

Product:

No data available

Aspiration toxicity

Product:

No data available

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks	:	Animal experiments using basic pigments of this type provided no indication of any toxicologically relevant properties.
Remarks	:	Hazardous properties cannot be excluded, but are relatively improbable due to the compound's poor water solubility.
Remarks	:	Our own experience has provided no indication of any hazardous potential.
Remarks	:	Inhalation of the dusts should be avoided as even inert dusts

may impair respiratory organ functions.

Remarks : Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Notice Directive on waste 2008/98/EC.

Waste should not be disposed of by release to sewers.

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

Seveso III Directive (2012/18/EU) implemented by Control of Major Accident Hazards Regulations 2015 (COMAH) Not applicable

Storage class (TRGS 510) : 10 - 13, Other liquids and solids

Other regulations:

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Decimal notation: "Thousands" places are identified with a comma (example: 2,000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a dot (example: 1.35 g/cm3).

Revision Note

Safety datasheet sections which have been updated : General revision

Disclaimer

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product. This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

GB / EN