





SOLID bifacial

Article		Manufacturer / Supplier	
Brand:	Solitek	Name:	Solitek
Name:	SOLID bifacial	FTI recycling system:	-
Description:	Solar module. Bifacial is an advanced double-sided solar panel that converts sunlight into electrical energy on both - its top and bottom - sides. This is made possible with the help of double-sided solar cells and protective tempered glass on both sides of the panel – top and bottom. - translated by Google	EMAS registration:	-
		ISO 14001 certification:	-
		REPA-register:	-
Article no.:			
BSAB code:	SHD - Solcellsaggregat		
BK04:	20010 - Solar collector systems		

Summary		
Conditions:	Documentation complete, product assessment possible	
Assessment:	A	
Assessment explanation:	A	
Note:		
	During the manufacturing phase	In the finished product
Phase-out substances:	Yes (U)	Yes U
Priority risk-reduction substances:	Yes (R)	Yes R
PBT/vPvB substances:	-	-
Potential PBT/vPvB substances:	-	-
Endocrine Disrupting Substances Category 1:	Yes (H)	-
Endocrine Disrupting Substances Category 2:	-	-
Environmentally hostile substances:	Yes (Y)	Yes Y
Substances hazardous to health:	Yes (C)	-
Substances hazardous to health present in the product in the raw materials:	-	
Other eco-labelling:	Nanoparticles:	n No
Energy class:		

Reported documentation			
Type	Issue	Check	Status
Internal Document *1	2022-10-12	2022-10-12	Manual
Internal Document *1	2022-09-13	2022-10-13	Manual
Internal Document *1	2021-02-25	2022-10-12	Manual
 Installation instructions	2022-06-01	2022-09-12	Historical
 Technical data sheet		2022-09-12	Manual
 SundaHus declaration		2022-09-12	Manual
 Certification document	2020-06-16	2022-09-15	Manual

Contents			
Name:	CAS no.	Amount	Classifications
back glass		46.41 %	
(aluminum oxide)	1344-28-1	0.69615 %	

Contents			
Name:	CAS no.	Amount	Classifications
(CaO)	1305-78-8	4.641 %	H302, H314, H315, H318, H335
(iron oxide)	1309-37-1	0.04641 %	
(K ₂ O)	12136-45-7	0.013923 %	H314, H318
(Silicon dioxide)	7631-86-9	34.3434 %	
(MgO)	1309-48-4	1.8564 %	
(Na ₂ O)	1313-59-3	6.418503 %	H314
Front glass		46.51 %	
(aluminum oxide)	1344-28-1	0.23255 %	
(CaO)	1305-78-8	4.13939 %	H302, H314, H315, H318, H335
(iron oxide)	1309-37-1	0.004651 %	
(K ₂ O)	12136-45-7	0.13953 %	H314, H318
(Silicon dioxide)	7631-86-9	33.58022 %	
(MgO)	1309-48-4	2.04644 %	
(Na ₂ O)	1313-59-3	6.18583 %	H314
(sulphur trioxide)	R 7446-11-9	0.106973 %	H314, H318, H330, H335, H351, H411, EUH014
junction box "Worst Case" substance		0.28 %	
connector "Worst Case" substance		0.080472 %	
Copper	§ 7440-50-8	0.02333688 %	
PA6-plastic "Worst Case" substance		0.05713512 %	
phosphite-based stabilizer for PA, PP, PC, ABS, PS (tris(2,4-di-tert-butyl phenyl) phosphite) "Worst Case" substance	31570-04-4	<0.0005713512 %	
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, 2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxy]methyl]-1,3-propanediyl ester (antioxidant)	6683-19-8	<0.0005713512 %	H302, H315, H412
nylon 6 polymer	25038-54-4	>0.034281072 %	
(hexanoic acid, 6-amino-)	60-32-2	>0.034281072 %	H315, H319, H335
talc	14807-96-6	0.022854048 %	
2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol	R 3147-75-9	<0.0005713512 %	H302, H312, H332, H410
brass H62		0.040236 %	
antimony	R 7440-36-0	0.0000020118 %	H302, H332, H351, H411
lead	U 7439-92-1	0.0000321888 %	H360FD, H362
(phosphorus)	7723-14-0	0.0000040236 %	H228, H412
iron	7439-89-6	0.000060354 %	
Copper	§ 7440-50-8	0.02554986 %	
bismuth	7440-69-9	0.00000080472 %	
PPE/PS plastic "Worst Case" substance		0.14084 %	

Contents			
Name:	CAS no.	Amount	Classifications
phosphite-based stabilizer for PA, PP, PC, ABS, PS (tris(2,4-di-tert-butyl phenyl) phosphite)	31570-04-4	0.0014084 %	
unspecified antioxidant for PS and PUR	2082-79-3	0.0014084 %	
phenol, 2,6-dimethyl-, homopolymer	25134-01-4		
(phenol, 2,6-dimethyl-)	576-26-1		H301, H311, H314, H411
Pigment "Worst Case" substance		0.007042 %	
iron oxide	1317-61-9		
carbon black	1333-86-4		
titanium oxide	R 13463-67-7	<0.0028168 %	
polystyrene polymer	9003-53-6		
(styrene)	U H1 100-42-5		H226, H315, H319, H332, H361d, H372
Solar LED "Worst Case" substance		0.015092 %	
epoxy plastic			
(Bisphenol A)	U 80-05-7		H317, H318, H335, H360F, H400, H410
((chloromethyl)-oxirane)	U H1 106-89-8		H226, H301, H311, H314, H317, H331, H350
tin plated copper			
Copper	§ 7440-50-8		
tin	7440-31-5		
silicon	7440-21-3	<0.015092 %	
Cable with PEX(XLPE) insulation		0.53 %	
Copper	§ 7440-50-8	0.265 %	
PEX plastic "Worst Case" substance		0.265 %	
stearyl-3,5-bis(tert-butyl)-4-hydroxyphenylpropionate "Worst Case" substance	2082-79-3	0.001325 %	
(carbon black)	1333-86-4		
peroxide, bis(1,1-dimethylethyl)	R 110-05-4	0.001325 %	H225, H242, H341
phosphite-based stabilizer for PA, PP, PC, ABS, PS (tris(2,4-di-tert-butyl phenyl) phosphite) "Worst Case" substance	31570-04-4	<0.00265 %	
organic pigment			
polyethylene polymer	9002-88-4		
(ethene)	74-85-1		H220, H336
(silane)			
titanium oxide	R 13463-67-7		
copper ribbons		0.71 %	
lead	U 7439-92-1	0.03124 %	H360FD, H362
Copper	§ 7440-50-8	0.66314 %	
tin	7440-31-5	0.04686 %	
(sealant/adhesive MS-polymer) "Worst Case" substance		0.27 %	
1-propanamine, 3-(trimethoxysilyl)-	13822-56-5	<0.0081 %	R36

Contents				
Name:		CAS no.	Amount	Classifications
decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidiny) ester, reaction products with tert-bu hydroperoxide and octane	R	129757-67-1	<0.0027 %	H413
tin, dibutylbis(2,4-pentanedionato-o,o)-	U	22673-19-4	<0.00027 %	H302, H314, H317, H318, H341, H360FD, H370, H372, H410
octadecanamide, n,n-1,2-ethanediybis[12-hydroxy-	R	123-26-2	<0.0027 %	H317, H412
carbonic acid, calcium salt (1:1)		471-34-1	0.108 %	
poly[oxy(methyl-1,2-ethanediy)], .alpha.-[3-(dimethoxymethylsilyl)propyl]- .omega.-[3-(dimethoxymethylsilyl)propoxy]-		75009-88-0	0.108 %	
(1,2-propylene oxide)	U	75-56-9		H224, H302, H311, H319, H331, H335, H340, H350
(silane, dimethoxymethyl-)		16881-77-9		
POE encapsulant film			3.05 %	
1-octene, polymer with ethene (POE)		26221-73-8	2.8975 %	
(octene)	R	25377-83-7		H225, H304, H400, H410, EUH066
(ethene)		74-85-1		H220, H336
(6,6'-di-tert-butyl-4,4'-diethyl-2,2'-methylenediphenol)		88-24-4	0.1525 %	
(Bis(-,dimethylbenzyl) peroxide)	U	80-43-3	0.305 %	H242, H315, H319, H360D, H411
(Titanium, (butyl phosphate, ethyl alcohol, isopropyl alcohol) complexes)		109037-78-7	0.1525 %	H319, H411
solar cell			2.24 %	
aluminum		7429-90-5	0.06272 %	
aluminum oxide		1344-28-1	0.0000224 %	
silicon		7440-21-3	2.1504 %	
silver		7440-22-4	0.018592 %	
Trisilicon tetranitride		12033-89-5	0.000448 %	

Emissions

Conforms To E0:

Conforms to E1:

Conforms To M1:

Conforms To M2:

Conforms To CARB1:

Conforms To CARB2:

EMICODE:

Energy consumption

Residual products / Waste

Raw materials:

Manufacturing:

Total:

During construction During demolition

Re-use:

Material recycling: 95 %

Energy recycling: 3 %

Landfill deposition:

Residual products / Waste

	During construction	During demolition
EWC (European Waste Code):		
Hazardous waste:	-	-

Portion of recycled material

Pre-consumer: 9.1 %

Post-consumer:

Service life

Service life: 30-50 år

Classification of the product

Hazard statements:

Precautionary statements

Risk phrases

Safety phrases

Corporate Social Responsibility (CSR)

CSR-policy:

Distribution

Pallet return system: No

Multiple-use packaging: No

Take-back of packaging: No

System for producer responsibility for packaging: No

Construction stage

Storage Requirements: Yes Two pallets can be stacked. Max 28 modules per pallet. (translated by Google)

Requirements on surrounding products: No

Usage Phase

Requirements on input materials: Yes Maintenance (minimal) is mentioned in the installation guide (translated by Google)

Energy supply: Not relevant

Demolition Phase

Disassembly: Yes It is possible to unscrew modules from the mounting system. (translated by Google)

Special measures: No

Waste Management

Special restrictions/recommendations: Yes The module can be reused after its first lifetime. It is important not to scratch the glass when disassembling the product. If the module does not work, the front glass, undamaged, can be reused through special recycling stations. (translated by Google)

Indoor Environment

Critical moisture level: No

Miscellaneous




Assessed: 2022-10-13 by Anton Lundström

Revised:

SHMD number: SHMD-6YMKSB3LC

Criteria: SundaHus Material Data Assessment Criteria edition 6.1.7

Explanations

(U)	At least one phase-out substance has been used in the manufacturing phase.
U	Contains at least one phase-out substance. / The substance fulfills the criteria for a phase-out substance according to the Swedish Chemicals Authority tool for substitution, PRIO.
(R)	At least one prioritized risk reduction substance has been used in the manufacturing phase.
R	Contains at least one prioritized risk reduction substance. / The substance fulfills the criteria for a prioritized risk reducing substance according to the Swedish Chemicals Authority tool for substitution, PRIO.
(H)	At least one substance on the European Commission Priority List with endocrine disruptors in category 1 has been used in the manufacturing stage for this product; this means that there is evidence of endocrine disrupting effects in at least one species (including humans).
H1	The substance is present in the European Comissions prioritization list over endocrine disruptors under category 1, which means that there is scientific evidence for an endocrine disrupting effect in atleast one animal (including humans).
	Substances hazardous to health present in the product during the manufacturing phase.
§	The substance is present in the restriction database.
n	Does not contain nano particles
	Contains at least one environmentally hostile substance.
	At least one environmentally hazardous substance used at construction
"Worst Case" substance	Worstcase substances are those that past experience or literature has shown may be present in particular product types. Worstcase substances are used when specific information on the product content is missing, in order to ensure that no critical elements are left out in the assessment.
(substance name)	A substance name in parentheses indicates that the substance is only present during the manufacturing stage, not in the finished product.
*1	The supplier/distributor does not allow us to show this document.
EUH014	Reacts violently with water.
EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H242	Heating may cause a fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Explanations	
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H360D	May damage the unborn child
H360F	May damage fertility
H360FD	May damage fertility. May damage the unborn child.
H361d	Suspected of damaging the unborn child
H362	May cause harm to breast-fed children.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
R36	Irritating to eyes