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LIST OF DATA PRODUCTS IN THE EUCLID SCIENCE ARCHIVE

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APPROVAL

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CHANGE LOG

Reason for change	Issue Nr	Revision Number	Date
Derived from EUCL-ESA-RO-8-017	1	0	30/11/2024
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Update with new SHE and PHZ products	1	2	03/04/2025

CHANGE RECORD

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Migrated to latest ESA template	16/12/2024	All	
Updated list of products, following change requests : EUCL-ESAC-CR-8-018_New_SHE_Products.doc EUCL-ESAC-CR-8-020_New_Deep_Products_DR1.docx	03/04/2025		Section 2

DISTRIBUTION

Name/Organisational Unit
ESA, Euclid Consortium



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1. INTRODUCTION

1.1. Purpose and scope of the document

This document lists the set of Euclid data products that will be made available to the Euclid Consortium members and to the scientific community (for public data releases only) through the Euclid science archive system. This list is, by default, applicable to the OTF and REG archive environments and to the environments related to the major data releases (internal/public DR1/DR2/DR3). Restriction to a subset of these data products may be implemented for Q-type releases after recommendation by the Euclid Science Team (EST) and endorsement by the Euclid Project Scientist (PS). This document will be under configuration control, subject to SGS CCB approval and EST/PS review. Changes must ultimately be approved by the Euclid Mission Manager.

1.2. Applicable documents

ID	Title	Reference	Issue/R ev.	Date
AD-01	Euclid SGS EAS requirements specification document	EUCL-OTS-RS-8-004	2.12	17/04/2018
AD-02	Euclid Science Management Plan (SMP)	ESA/SPC(2013)17	-	03/06/2013
AD-03	Q1 fields definition https://www.cosmos.esa.int/documents/10647/12245842/EUCL-EST-ME-8-018_v1_Q1_fields_definition_2024-09-30.pdf/925039c3-6a90-5038-591e-2a8b86dbe19d?t=1730731961642	EUCL-EST-ME-8-018	-	23/09/2024

1.3. Abbreviations and acronyms

Acronym	Definition
DPDD	(Euclid) Data Product Definition Document , latest version on: http://st-dm.pages.euclid-sgs.uk/data-product-doc/index.html
EAS	Euclid Archive System
ESAS	Euclid Science Archive System
FITS	Flexible Image Transport System
IDR	Intermediate Data Release
LE1	Level 1 data products
LE2	Level 2 data products
LE3	Level 3 data products
NIR	Near-Infrared (data products)
NISP	Near-Infrared Spectrometer and Photometer
OTF	On-the-fly environment of the Euclid science archive
RMS	Root Mean Square
SED	Spectral Energy Distribution
SIR	Spectroscopy Infrared (data products)
SOC	Science Operations Centre
VIS	Visible Instrument (data products)

2. LIST OF LEVEL-1 AND LEVEL-2 DATA PRODUCTS

The list of LE1 and LE2 DPS data products, with names as given in the Data Product Definition Document (DPDD) version 10.1.2 that can be ingested in ESAS are:

Level 1 :

- **DpdVisRawFrame**
- **DpdNispRawFrame**

Level 2 :

1. VIS data products:
 - **DpdVisCalibratedQuadFrame**
 - **DpdVisStackedFrame**
 - **DpdVisCalibratedFrameCatalog**
 - **DpdVisStackedFrameCatalog**
2. NIR data products:
 - **DpdNirCalibratedFrame**
 - **DpdNirStackedFrame**
 - **DpdNirCalibratedFrameCatalog**
 - **DpdNirStackedFrameCatalog**
3. SIR data products
 - **DpdSirScienceFrame**
 - **DpdSirCombinedSpectra**
4. MER data products
 - **DpdMerBksMosaic**
 - **DpdMerSegmentationMap**
 - **DpdMerFinalCatalog**
5. PHZ
 - **DpdPhzPfOutputCatalog**
 - **DpdPhzPfOutputForL3**
 - **DpdPhzPfDeepOutputCatalog**
6. SPE
 - **DpdSpePfOutputCatalog**
7. SHE
 - **DpdSheBiasParams**
 - **DpdSheLensMcChains**
 - **DpdSheLensMcFinalCatalog**
 - **DpdSheLensMcRawCatalog**
 - **DpdSheMetaCalFinalCatalog**
 - **DpdSheMetaCalRawCatalog**

DpdPhzPfDeepOutputCatalog shall be included in ESAS v1.6.1

3. DATA PRODUCTS DETAILS

All data are in FITS format.

3.1. Level 1 data products

LE1 data are the raw data generated at the SOC for VIS and NISP data.

3.2. Level 2 data products

3.2.1. VIS data products

ECDM Data Product name	ID	description
DpdVisCalibratedQuadFrame	vis.calibratedFrame	Multi-extensions calibrated frame
	vis.backgroundMap	Background map
	vis.weightMap	Weight map
	vis.psfModel	Point spread function file
DpdVisCalibratedFrameCatalog	vis.calCatalog	Source catalogue of calibrated frame
DpdVisStackedFrame	vis.stackedImage	Stacked frame
	vis.weightMap	Weight map
	vis.backgroundMap	Background map
	vis.psfModel	Point spread function file
DpdVisStackedFrameCatalog	vis.stkCatalog	Source catalogue of stacked frame

3.2.2. NIR data products

ECDM Data Product name	ID	description
DpdNirCalibratedFrame	nir.calibratedScienceFram	Calibrated frame
	nir.backgroundMap	Background frame
	nir.psfImage	Point spread function file
DpdNirCalibratedFrameCatalog	nir.calCatalog	Source catalogue of calibrated frame
DpdNirStackedFrame	nir.stackedImage	Stacked frame
	nir.psfImage	Point spread function file
	nir.stkCatalog	Source catalogue of stacked frame

3.2.3. SIR data products

ECDM Data Product name	ID	description
DpdSirScienceFrame	sir.scienceFrame	SIR science frame
DpdSirCombinedSpectra	sir.combinedSpectra	SIR 1D spectra

3.2.4. MER data products

ECDM Data Product name	ID	description
DpdMerBksMosaic	mer.mosaic	background subtracted mosaic
	mer.backgroundMap	background model map
	mer.mosaicPsf	Point spread function file
	mer.mosaicFlag	Flag map
	mer.mosaicRms	RMS map
DpdMerSegmentationMap	mer.segmentationMap	Segmentation map of source
DpdMerFinalCatalog	mer.finalCatalog	Source catalogue
	mer.finalMorphologyCatalog	Source morphology catalogue
	mer.cutoutsCatalog	Cutout information catalogue

3.2.5. PHZ data products

ECDM Data Product name	ID	description
DpdPhzPfOutputCatalog	phz.photoZCatalog	Photometric redshift and PDF
	phz.sedCatalog	Galaxy SED catalogue
	phz.starSedCatalog	Star SED catalogue
DpdPhzPfOutputForL3	phz.classificationCatalog	Classification catalogue
	phz.NirPhysicalParametersCatalog	NIR physical parameters catalogue
	phz.physicalParametersCatalog	Physical parameters catalogue
	phz.QsoPhysicalParametersCatalog	QSO physical parameters catalogue
	phz.StarTemplate	Star template
DpdPhzPfDeepOutputCatalog	phz.PhotoZCatalog	
	phz.PhysicalParametersSampling	
	phz.StarSedCatalog	
	phz.GalaxySedCatalog	
	phz.StarTemplate	
	phz.QsoPhysicalParametersCatalog	
	phz.NirPhysicalParametersCatalog	
	phz.ClassificationCatalog	



3.2.6. SPE data products

ECDM Data Product name	ID	description
DpdSpePfOutputCatalog	spe.spectroZCatalog	Redshift catalogue
	spe.spectroModelCatalogs	Models catalogue
	spe.spectroLineFeaturesCatalog	Lines catalogue

3.2.7. SHE data products

ECDM Data Product name	ID	description
DpdSheBiasParams	she.biasParams	
DpdSheLensMcChains	she.lensMcChains	
DpdSheLensMcFinalCatalog	she.LensMcCatalog	
DpdSheLensMcRawCatalog	sheLensMcMeasurements	
DpdSheMetaCalFinalCatalog	she.MetaCalCatalog	
DpdSheMetaCalRawCatalog	she.MetaCalRawCatalog	

3.3. LE3 data products

The current list was defined as part of the Q1 preparation (AD-03, public html link in Applicable Documents) and the full list is in preparation.

ECDM Data Product name	ID	description
DpdHealpixBitMaskVMPZ	le3.id.vmpz.healpixbitmask	
DpdHealpixFootprintMaskVMPZ	le3.id.vmpz.healpixfootprintmask	
DpdHealpixCoverageVMPZ	le3.id.vmpz.healpixcoveragemask	
DpdHealpixDepthMapVMPZ	le3.id.vmpz.healpixdepthmap	
DpdHealpixInfoMapVMPZ	le3.id.vmpz.healpixinfomap	