Product Name Hot-Dip Galvanized Steel - High Grade/Special High Grade Zinc by Product Manufacturer Blank HPD 2.2 - Basic Method/Product Threshold

Health Product Declaration® v2.2

CLASSIFICATION: 09 097 13.23 Finishes: Exterior Steel Coatings

created via: Blank HPD 2.2 - Basic
Method/Product Threshold

PRODUCT DESCRIPTION: Hot-dip galvanizing is the process of immersing steel in molten zinc. There are three types of zinc run in galvanizing kettles in North America. This HPD covers High Grade and/or Special High Grade zinc, which are comprised of 99% zinc metal. When applied to the steel product, the zinc coating will account for approximately 2% of the final material weight. This HPD takes into account the 2% zinc coating as well as the base steel - making it a complete HPD for a hot-dip galvanized steel product processed in a kettle with high grade or special high grade zinc.



Section 1: Summary

Basic Method/Product Threshold

CO	NTENT	INIVENI:	$T \cap DV$

Inventory Reporting Format Threshold Level

O Nested Materials Method

Basic Method

Threshold Disclosed Per

O Material

Product

O 100 ppm

● 1,000 ppm

O Per GHS SDS O Other

Residuals/Impurities

Considered

O Partially Considered

O Not Considered

Explanation(s) provided for Residuals/Impurities?

Yes O No All Substances Above the Threshold Indicated Are:

Characterized O Yes Ex/SC • Yes O No % weight and role provided for all substances

Screened O Yes Ex/SC • Yes O No

All substances screened using Priority Hazard Lists with results disclosed

Yes Ex/SC Yes Identified All substances disclosed by Name (Specific or Generic) and Identifier

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY GREENSCREEN SCORE | HAZARD TYPE

HOT-DIP GALVANIZED STEEL - HIGH GRADE/SPECIAL HIGH GRADE ZINC STEEL (STEEL) NOGS ZINC (ZINC) LT-P1 | AQU | END | MUL | PHY] Number of Greenscreen BM-4/BM-3 contents: UNK

Contents highest concern GreenScreen Benchmark or List translator Score: LT-P1

Nanomaterial: No contents are characterized as nanomaterial

INVENTORY AND SCREENING NOTES:

Hot-dip galvanized coating comprises approximately only 2% of the final material weight. This HPD takes into account the 2% of High Grade or Special High Grade zinc coating as well as the base metal.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC CONTENT DATA IS NOT APPLICABLE FOR THIS PRODUCT CATEGORY

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings. VOC Emissions:

CONSISTENCY WITH OTHER PROGRAMS

Third Party Verified? PREPARER SCREENING DATE VERIFIER: OYes PUBLISHED DATE: No VERIFICATION #: EXPIRY DATE:



This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- · Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold.
- · Nested Material Inventory method with individual Material-level thresholds.

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard.

PRODUCT NAME HOT-DIP GALVANIZED STEEL - HIGH GRADE/SPECIAL HIGH GRADE ZINC

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Considered

RESIDUALS/IMPURITIES NOTES:

Zinc per ASTM B6 is the primary material used in the coating for hot-dip galvanized steel. Impurities are noted in ASTM B6.

OTHER PRODUCT NOTES:

Steel is the base material for the hot-dip galvanized coating.

ID: 12597-69-2 SUBSTANCE NAME STEEL

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-01-19

NANO: No SUBSTANCE ROLE: Structure component GS: UNK RC: UNK

HAZARD TYPES: AGENCIES AND LIST TITLES: WARNINGS:

None Found No warnings on the HPD Priority Lists

SUBSTANCE NOTES:

Steel is the most recycled material in the world. The Steel Recycling Institute reports 56.9% post-consumer recycled content and 31.4% pre-consumer recycled content.

https://ssabwebsitecdn.azureedge.net/-/media/files/en/americas/025-safety-data-sheet--steel-tube-structural-sds--ssab002-102018.pdf?m=20181107141843

SUBSTANCE NAME ZINC ID: 7440-66-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-01-19

gs: UNK RC: UNK %: 2 NANO: No SUBSTANCE ROLE: Galvanizing

HAZARD TYPES: AGENCIES AND LIST TITLES:

ACUTE AQUATIC EU - GHS (H-Statements) H400 - Very toxic to aquatic life

CHRON AQUATIC ENDOCRINE H410 - Very toxic to aquatic life with long lasting effects EU - GHS (H-Statements) Potential Endocrine Disruptor

TEDX - Potential Endocrine Disruptors Class 2 - Hazard to Waters PHYSICAL HAZARD

German FEA - Substances Hazardous to Waters (REACTIVE) H250 - Catches fire spontaneously if exposed to air

PHYSICAL HAZARD EU - GHS (H-Statements) H260 - In contact with water releases flammable gases which may (REACTIVE)

WARNINGS

EU - GHS (H-Statements) ignite spontaneously

SUBSTANCE NOTES:

Correct hazard statements if any are listed in the SDS for High Grade/Special High Grade Zinc. General zinc health information can be found at the International Zinc Association's website at http://www.zinc.org.

Example SDS for High Grade/Special High Grade Zinc https://www.teck.com/media/Zinc-Metal-2018-SDS-.pdf



This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

	VOC	Emissions	-	N/A
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CERTIFYING PARTY:	ISSUE DATE:	EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Environmental Product Declaration for Hot-Dip Galvanized Structural Steel (LCA)

CERTIFYING PARTY: Self-Declared ISSUE DATE: 9/22/2016 EXPIRY DATE: 9/22/2021

CERTIFIER OR LAB: Underwriters Laboratory (EPD)

APPLICABLE FACILITIES: Member names are available at https://galvanizeit.org/education-and-resources/publications/galvasource

CERTIFICATE URL: https://galvanizeit.org/hot-dip-galvanizing/is-galvanizing-sustainable/hdg-and-leed/environmental-product-declaration-epd CERTIFICATION AND COMPLIANCE NOTES:

Certification is for the Environmental Product Declaration (EPD) for Hot-Dip Galvanized Structural Steel. The EPD covers the Life Cycle Analysis (LCA) of hot-dip galvanizing.

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product



Section 5: General Notes



MANUFACTURER INFORMATION

MANUFACTURER: American Galvanizers Association

ADDRESS:

6881 S. Holly Circle, Suite 108 Centennial, CO 80112

CONTACT NAME: Thomas Langill, Ph.D.

TITLE: Technical Directcor PHONE: 720.361.4486

aga@galvanizeit.org

WEBSITE: www.galvanizeit.org

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity **GLO** Global warming **CAN** Cancer **LAN** Land Toxicity

DEV Developmental toxicity MAM Mammalian/systemic/organ toxicity

MUL Multiple hazards **END** Endocrine activity EYE Eye irritation/corrosivity **NEU** Neurotoxicity

GEN Gene mutation NF Not found on Priority Hazard Lists **OZO** Ozone depletion

PBT Persistent Bioaccumulative Toxic PHY Physical Hazard (reactive)

REP Reproductive toxicity

RES Respiratory sensitization

SKI Skin sensitization/irritation/corrosivity

UNK Unknown

GreenScreen

BM-4 Benchmark-4 (prefer - safer chemical)

BM-3 Benchmark-3 (use but still opportunity for improvement) BM-2 Benchmark-2 (use but search for safer substitutes) **BM-1** Benchmark-1 (avoid – chemical of high concern)

BM-U Benchmark Unspecified (due to insufficient data)

LT-P1 List Translator Possible Benchmark-1 (possible Benchmark-1)

LT-1 List Translator Likely Benchmark-1 (likely Benchmark-1)

LT-UNK List Translator Benchmark Unknown

NoGS No GreenScreen

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

Recycled Content Types

PreC Preconsumer (Post-Industrial)

PostC Postconsumer

Both Both Preconsumer and Postconsumer

UNK Inclusion of recycled content is unknown

None Does not include recycled content

Other Terms

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material Nested Method / Product Threshold Substances listed within each material per threshold indicated per product Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology

Third-Party Verified Verification by independent certifier approved by HPDC

Preparer Third-party preparer, if not self-prepared by manufacturer

Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard is not:

- · a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.