

Issuing Date 16-Jul-2023

Revision date 18-Jul-2023

Revision Number 1

1. IdentificationProduct identifier

Product Name Accura® AMX Tough FR V0 Black

Other means of identification

Product Code(s) 24422

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use For use with SLA Systems

Restrictions on use Any non-intended use

Details of the supplier of the safety data sheetManufacturer Address3D Systems, Inc.
333 Three D Systems Circle
Rock Hill, South Carolina 29730 U.S.A.

E-mail moreinfo@3dsystems.com

Emergency telephone number

Company Phone Number 800.793.3669 (Toll-free)

Emergency Telephone Chemtec - 800.424.9300 (Toll Free)
+1 703-527-3887**2. Hazard(s) identification**Classification

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1A
Specific target organ toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements


Danger
Hazard statements

Harmful if swallowed
 Causes serious eye damage
 May cause an allergic skin reaction
 May cause damage to organs through prolonged or repeated exposure
 Harmful to aquatic life with long lasting effects

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Contaminated work clothing must not be allowed out of the workplace
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves/eye protection/face protection

Precautionary Statements - Response

Get medical advice/attention if you feel unwell
 Specific treatment: Wash contaminated skin with soap and water. Wash eyes with clean water for about 15 minutes.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a doctor
 IF ON SKIN: Wash with plenty of water and soap
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
 Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information

Store out of direct sunlight, UV light sources or heat. Use with local exhaust ventilation. May be harmful in contact with skin.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%
2-Propen-1-one, 1-(4-morpholinyl)	5117-12-4	25 - 35
(2,4,6-trioxo-1,3,5-triazinane-1,3,5-triyl)triethane-2,1-diyl trisacrylate	40220-08-4	15 - 25
Phenyl, Bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7	1 - 10
Nonhazardous Components	NA	30 - 40

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Ensure that eyewash stations and safety showers are close to the workstation location.
Inhalation	Avoid breathing (dust, vapor, mist, gas). Move to fresh air in case of accidental inhalation of vapors. Ensure adequate ventilation. Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Large Fire	Dry chemical, CO2 or water spray. CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Product is or contains a sensitizer. May cause sensitization by skin contact. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	Hydrocarbons. Carbon dioxide (CO2). Carbon monoxide. Nitrogen oxides (NOx). May release poisonous and corrosive fumes. Hydrogen bromide. Phosphorus oxides. Phosphoric acids.
Explosion data	
Sensitivity to mechanical impact	No information available.
Sensitivity to static discharge	No information available.
Special protective equipment and	Remove all sources of ignition. Cool drums with water spray. Firefighters should wear

precautions for fire-fighters self-contained breathing apparatus and full firefighting turnout gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Use of a National Institute for Occupational Safety and Health (NIOSH) certified respirator with an Assigned Protection Factor (APF) of 50 is recommended.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

8. Exposure controls/personal protection

Control parameters

Exposure Limits Not established.

Appropriate engineering controls

Engineering controls Recommend users establish appropriate engineering control measures, including but not limited to local exhaust ventilation, in rooms/areas where printers are installed and in post-processing areas, to minimize inhalation exposure.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
-	Nitrile rubber	8 mil	

Skin and body protection Avoid contact with eyes, skin and clothing. Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Make sure that the carbon filtration at the exhaust is working properly. Uncured parts should be transported in closed containers. Wear skin and eye/face protection PPE during part processing. Use of a dust mask is recommended during cleaning surfaces with dust or when dust generation is a possibility during sanding or grinding operations.

Environmental exposure controls Avoid release to the environment. Do not allow to enter into soil/subsoil.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Uncured parts should be transported in closed containers.

Thermal hazards None under normal processing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Viscous
Color	black
Odor	Mild Acrylic
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	-
Melting point / freezing point	<-80 °C	-
Boiling point / boiling range	288 °C	-
Flash point	152 °C	-
Evaporation rate	No data available	-
Flammability (solid, gas)	No data available	-
Flammability Limit in Air	-	-
Upper flammability or explosive limits	-	-
Lower flammability or explosive limits	-	-
Vapor pressure	No data available	-
Relative vapor density	No data available	-
Relative density	1.23g/cm ³	-
Water solubility	Insoluble in water	-
Solubility(ies)	No data available	-
Partition coefficient	No data available	-
Autoignition temperature	No data available	-
Decomposition temperature	305 °C	-
Kinematic viscosity	No data available	-
Dynamic viscosity	1100 - 1200 (@25 °C) mPa s	-

Other information

Explosive properties	No information available
Oxidizing properties	No information available

Softening point	No information available
Molecular weight	No information available
VOC content	190.1 g/L
Liquid Density	No information available
Bulk density	No information available

Sensitivity to mechanical impact No information available

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10. Stability and reactivity

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Protect from moisture. To avoid thermal decomposition, do not overheat.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Nitrogen oxides (NOx). Carbon dioxide (CO ₂). Carbon monoxide. Hydrocarbons. Hydrogen bromide.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Itching. Rashes. Hives.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-Propen-1-one, 1-(4-morpholinyl) 5117-12-4	-	> 2000 mg/kg (Rat)	-
Phenyl, Bis(2,4,6-trimethylbenzoyl)-phos phine oxide 162881-26-7	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes burns. Causes serious eye damage.
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Phenyl, Bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	-	LC50: >90µg/L (96h, Danio rerio)	-	-

Persistence and degradability No information available.

Bioaccumulation

Chemical name	Partition coefficient
2-Propen-1-one, 1-(4-morpholinyl) 5117-12-4	-0.46
(2,4,6-trioxo-1,3,5-triazinane-1,3,5-triyl)triethane-2,1-diyl trisacrylate 40220-08-4	2.61
Phenyl, Bis(2,4,6-trimethylbenzoyl)-phosphine oxide 162881-26-7	5.8

Other adverse effects No information available.

13. Disposal considerations
Waste treatment methods

Waste from residues/unused products Reduce waste by attempting to utilize product completely. Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

ADR Not regulated

15. Regulatory information
International Inventories

TSCA All ingredients are listed (Active) or exempt.

U.S. - TSCA (Toxic Substances Control Act) - Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs)
TSCA Section 12(b): 2-Propen-1-one, 1-(4-morpholinyl), CAS 5117-12-4 subjected to 40 CFR 721.5185

Chemical name	TSCA- Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs)
2-Propen-1-one, 1-(4-morpholinyl) 5117-12-4	Section 5(a)

TSCA Section 6 restricted substances

This formulation DO NOT contain substances listed under the EPA Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h).

EINECS/ELINCS

All ingredients are listed or exempt.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3 *	Flammability 0	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date	16-Jul-2023
Revision date	18-Jul-2023
Revision Note	No information available.

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800.793.3669 (Toll-free in the US GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

803.326.3900 (Outside the U.S. GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

+44 144-2282600 (Europe GMT+01:00; Mon – Fri, 08:00 a.m. - 17:00 p.m. MEZ)

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End of Safety Data Sheet