

ESAB GROUP INC -- UNIONMELT SUBMERGED ARC WELDING FLUXES, FUSED GRADE 55 --
3439-00-165-4188

===== Product Identification =====

Product ID:UNIONMELT SUBMERGED ARC WELDING FLUXES, FUSED GRADE 55

MSDS Date:12/22/1997

FSC:3439

NIIN:00-165-4188

Status Code:A

MSDS Number: CKKTJ

=== Responsible Party ===

Company Name:ESAB GROUP INC

Address:801 WILSON AVENUE

Box:517

City:HANOVER

State:PA

ZIP:17331

Count

ry:US

Info Phone Num:717-637-8911 OR 800-933-7070

Emergency Phone Num:717-637-8911

CAGE:84021

=== Contractor Identification ===

Company Name:ESAB GROUP INC

Address:801 WILSON AVENUE

Box:517

City:HANOVER

State:PA

ZIP:17331

Country:US

Phone:717-637-8911 OR 800-933-7070

CAGE:84021

===== Composition/Information on Ingredients =====

Ingred Name:MANGANESE OXIDE, (MNO) CAS# 1344-13-0

= Wt:45.

OSHA PEL:C 5 MG/M3

ACGIH TLV:0.2 MG/M3

Ingred Name:ALUMINUM OXIDE, (AL2O3)

CAS:1344-28-1

R

TECS #:BD1200000
Fraction by Wt: PRESENT
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3

Ingred Name:SILICA, (SIO2)
CAS:14808-60-7
RTECS #:VV7330000
Fraction by Wt: PRESENT
OSHA PEL:0.1 MG/M3, R. DUST
ACGIH TLV:0.1 MG/M3, R. DUST

Ingred Name:IRON OXIDES, (FEO)
CAS:7439-89-6
RTECS #:NO4565500
Fraction by Wt: PRESENT
OSHA PEL:10 MG/M3, T. PART.
ACGIH TLV:5 MG/M3, FUMES

Ingred Name:TITANIUM OXIDE (TIO2)
CAS:13463-67-7
RTECS #:XR2275000
Fraction by Wt: PRESENT
OSHA PEL:5 MG/M3, R. DUST
ACGIH TLV:10 MG/M3, D
UST

Ingred Name:FLUORIDES
CAS:7789-75-5
RTECS #:EW1760000
Fraction by Wt: PRESENT
OSHA PEL:2.5 MG/M3 AS F
ACGIH TLV:2.5 MG/M3 AS F

===== Hazards Identification =====

LD50 LC50 Mixture:NONE PROVIDED BY MFR.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:UNKNOWN IARC:UNKNOWN OSHA:YES
Health Hazards Acute and Chronic:ACUTE: OVER EXPOSURE TO THE GASES,
FUMES, AND DUST DURING WELDING MAY INCLUDE IRRITATION OF EYES,

LUNGS, NOSE , AND THROAT. SOME TOXIC GASES ASSOCIATED WITH WELDING MAY CAUSE PULMONARY EDEMA, ASPHYXIA TION, AND DEATH. DUST GENERATED FROM POURING OR OTHERWISE HANDLING THE FLUX MAY ALSO CAUSE IRRITATION OF THE EYES, LUNGS, NOSE AND THROAT. ABSORPTION BY SKIN IS UNLIKELY. WHEN THESE PRODUCTS ARE USED AS RECOMMENDED BY THE ESAP GROUP, AND VENTILATION MAINTAINS EXPOSURE TO THE DECOMPOSITION PRODUCTS BELOW THE LIMITS RECOMMENDED IN THIS SECTION, OVEREXPOSURE IS UNL

IKELY.

Explanation of Carcinogenicity:RESPIRABLE, CRYSTALLINE SILICA MUST BE CONSIDERED A POSSIBLE CARCINOGEN UNDER OSHA (29CFR1910.1200). EXPOSURE LEVEL MUST BE KEPT BELOW THOSE LEVELS SPECIFIED.

Effects of Overexposure:MAY INCLUDE IRRITATION OF THE EYES, LUNGS, NOSE AND THROAT. SOME TOXIC GASES ASSOCIATED WITH WELDING MAY CAUSE PULMONARY EDEMA, ASPHYXIATION, DEATH. ACUTE OVEREXPOSURE MAY INCLUDE SIGNS AND SYMPTOMS SUCH AS WATERY EYES, NOSE AND THROAT IRRITATION, HEADACH

E, DIZZINESS, DIFFICULTY IN BREATHING, FREQUENT COUGHING, OR CHEST PAIN. DUST GENERATED FROM POURING OR OTHERWISE HANDLING FLUX MAY ALSO CAUSE I RRRITATION OF EYES, LUNGS, NOSE AND THROAT. SYMPTOMS FROM EXPOSURE TO MANGANESE COMPOUNDS: LANGUOR, SLEEPLESSNESS, MUSCULAR WEAKNESS, EMOTIONAL DISTUBANCES, SPASTIC GAIT.

Medical Cond Aggravated by Exposure:INDIVIDUALS WITH ALLERGIES OR IMPAIRED RESPIRATORY FUNCTION MAY HAVE SYMPTOMS WORSENERD BY EXPOSURE TO WELDING FUMES.

===

===== First Aid Measures =====

First Aid:IN CASE OF EMERGENCY, CALL FOR MEDICAL AID. EMPLOY FIRST AID TECHNIQUE RECOMMENDED BY THE RED CROSS. IF BREATHING IS DIFFICULT, GIVE OXYGEN & CALL FOR A PHYSICIAN. FOR ELECTRIC SHOCK: DISCONNECT & TUR N OFF THE POWER. IF NOT BREATHING, BEGIN ARTIFICIAL RESPIRATION, PERFERABLY MOUTH-TO-MOUTH. IF NO DETECTABLE PULSE, BEGIN CARDIO PULMONARY RESUSCILATION (CPR). IMMEDIATELY CALL A PHYSICIAN. FOR ARC

BU RN: APPLY COLD, CLEAN COMPRESSES & CALL A PHYSICIAN.

===== Fire Fighting Measures =====

Flash Point:NOT FLAMMABLE

Extinguishing Media:PRODUCT WILL NOT BURN. HOWEVER, WELDING ARCS CAN IGNITE COMBUSTIBLE MATERIALS. USE THE EXTINGUISHING MEDIA RECOMMENDED FOR THE BURNING MATERIALS AND FIRE SITUATION.

Fire Fighting Procedures:SEE ANSI Z49.1 "SAFETY IN WELDING AND CUTTING" & "SAFE PRACTICES" CODE: SP, PUBLISHED BY AMERICAN WELDING SOCIETY, P

.O. BOX 351040, MIAMI, FL. 33135, AND NFPA 51B "CUTTING AND WELDING PROCESSES", PUBLISHED BY NATIONAL FIRE PROTECTION ASSOC., BATTERYMARCH PARK, GUINCY, MA 02269 FOR MOREL FIRE PREVENTION AND PROTECTION.

Unusual Fire/Explosion Hazard:NONE PROVIDED BY MFR.

===== Accidental Release Measures =====

Neutralizing Agent:NONE PROVIDED BY MFR.

===== Handling and Storage =====

Handling and Storage Precautions:NONE PROVIDED BY MFR.

Other Precautions:NONE PROVIDED BY MFR.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:USE RESPIRABLE FUME RESPIRATOR OR AIR SUPPLIED RESPIRATOR WHEN WELDING IN CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW TLV. TRAIN THE WELDERS TO KEEP HIS HEAD OUT OF THE FUMES.

Ventilation:USE ENOUGH VENTILATION, LOCAL EXHAUST AT THE ARC, OR BOTH, TO KEEP THE FUMES & GASES BELOW THE TLV'S IN THE WORKER'S BREATHING ZONE.

Protective Gloves:WELDERS GLOVES

Eye Protection:SAFETY GLASSES & EYE SHIELDS TO PROTECT FROM SPARKS, SPATTER, RADIATION.

Other Protective Equipment:WEAR HEAD, HAND & BODY PROTECTION WHICH HELP TO PREVENT INJURY FROM RADIATION, SPARKS & ELECTRICAL SHOCK. AT A MINIMUM, ARM PROTECTORS, APRONS, HATS, SHOULDER PROTECTION, DARK SUBSTANTIAL CLOTHING.

Work Hygienic Practices:TRAIN THE WELDER NOT TO TOUCH LIVE ELECTRIC PARTS AND TO INSULATE HIMSELF FROM WORK AND GROUND.

Supplemental Safety and Health

CHRONIC OVEREXPOSURE TO CONTAMINANTS FROM WELDING MAY LEAD TO THEIR ACCUMULATION IN LUNGS. CHRONIC FLUORIDE ABSORPTION CAN CAUSE SCLEROSIS OF BONES AND MOTTLED TEETH. OVEREXPOSURE TO MANGANESE COMPOUNDS MAY AFFECT THE CNS. OVEREXPOSURE TO CRYSTALLINE SILICA MAY RESULT IN SILICOSIS, A DISABLING LUNG DISEASE.

===== Physical/Chemical Properties =====

HCC:N1

Boiling Pt:B.P. Text:NONE PROVIDED BY MFR.

Melt/Freeze Pt:M.P

/F.P Text:NONE PROVIDED BY MFR.
Decomp Temp:Decomp Text:NONE PROVIDED BY MFR.
Vapor Pres:NONE PROVIDED BY MFR.
Vapor Density:NONE PROVI
Spec Gravity:NONE PROVIDED BY MFR.
pH:NONE PROVIDED
Viscosity:NONE PROVIDED BY MFR.
Evaporation Rate & Reference:NONE PROVIDED BY MFR.
Solubility in Water:NONE PROVIDED BY MFR.
Appearance and Odor:FUSED FLUXES ARE GRANULATED GLASS-LIKE SOLID
PARTICLES, ODORLESS
Percent Volatiles by Volume:NONE PROVIDE
Corrosion Rate:NONE PROVIDED BY MFR

=====
= Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
NONE CURRENTLY KNOWN
Stability Condition to Avoid:NONE PROVIDED BY MFR.
Hazardous Decomposition Products:WELDING FUMES AND GASES CANNOT BE
CLASSIFIED SIMPLY. THE COMPOSITION AND QUALITY OF BOTH ARE
DEPENDENT UPON THE MATERIAL BEING WORKED, THE PROCESS, PROCEDURES,
AND CONSUMABLES USED.
Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== Toxicological Information =====
=====

Toxicological Information:ELECTRIC ARC WORKING MAY CREATE ONE OR MORE
OF THE FOLLOWING HEALTH OR PHYSECAL HAZARDS. FUMES AND GASES CAN BE
DANGEROUS TO YOUR HEALTH. ELECTRIC SHOCK CAN KILL YOU. ARC RAYS CAN
INJURE EYES AND BURN SKIN. NOISE CAN DAMAGE HEARING. AN ADDITIONAL
DETAILED DESCRIPTION OF THE HEALTH AND PHYSICAL HAZARDS AND THEIR
CONSEQUENCES MAY BE FOUND IN ESAB'S PUBLICATIONS F52-529
"PRECAUTIONS AND SAFE PRACTICE S FOR ELECTRIC WELDING AND CUTTIN
G"
AND F2035, "PRECAUTIONS AND SAFE PRACTICES FOR GAS WELDING,
CUTTING, AND HEATING. YOU MAY OBTAIN COPIES FROM YOUR SUPPLIER OR
BY WRITING TO THE ESAB GROUP, INC.

===== Disposal Considerations =====

Waste Disposal Methods:PREVENT WASTE FROM CONTAMINATING SURROUNDING
ENVIRONMENT. DISCARD ANY PRODUCT, RESIDUE, DISPOSABLE CONTAINER, OR
LINER IN AN ENVIRONMENTALLY ACCEPTABLE MANNER, IN FULL COMPLIANCE
WITH FEDERAL, STATE A ND LOCAL REGULATIO

NS.

===== MSDS Transport Information =====

Transport Information:AS SHIPPED THESE PRODUCTS ARE NONFLAMMABLE,
NONEXPLOSIVE, NONREACTIVE, AND NONHAZARDOUS.

===== Regulatory Information =====

SARA Title III Information:MANGANESE OXIDE, CAS#7439-96-5 IS SUBJECT TO
THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING
AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 (SARA) AND 40 CFR PART 372.

State Regulatory Inform

ation:WARNING: THIS PRODUCT CONTAINS A CHEMICAL
KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER,(CALIFORNIA HEALTH
& SAFETY CODE 25249.5 ET SEQ.)

Disclaimer (provided with this information by the compiling agencies):

This information is formulated for use by elements of the Department
of Defense. The United States of America in no manner whatsoever,
expressly or implied, warrants this information to be accurate and
disclaims all liability for its use. Any person utilizing this

document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.