
S-59 SOLUTION (15MM)

BAXTER HEALTHCARE

Revised: 5/1/1999

Other Information

N/A

MSDS

Material Safety Data Sheet

MFG. NAME: BAXTER HEALTHCARE
TRADE NAME: S-59 SOLUTION (15MM)
REV DATE: 05/01/99
CAS#: 161262-45-9
MFG. PROD.#:
START_MSDS

BAXTER

MATERIAL SAFETY DATA SHEET: S-59 SOLUTION (15MM)

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SECTION 1: IDENTIFICATION

TRADE/COMMON NAMES: S-59 SOLUTION (15MM)

PRODUCT CODE(S): NOT APPLICABLE

DESCRIPTION:
ISOTONIC SALINE SOLUTION CONTAINING 15MM S-59 (PSORALEN DERIVATIVE) IN PLASTIC CONTAINER.

PRODUCT USE: FOR VALIDATION OF UV ILLUMINATION DEVICE.

SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	%	EXPOSURE LIMITS	NOTES
3-((2-AMINOETHOXY)METHYL)-2,5,9-TRIMETHYL-7H-FURO(3,2-G)(1)BENZOPYRAN-7-ONE-HYDROCHLORIDE (S-59)	161262-45-9	<1	a,b*	NONE
SODIUM CHLORIDE	7647-14-5	<1	a,b*	NONE
WATER	7732-18-5	>98	NE	NONE

KEY:

NE = NOT ESTABLISHED

a PARTICULATES NOT OTHERWISE CLASSIFIED (PNOC), TWA INHALABLE PARTICULATE: 10 MG/M3, RESPIRABLE PARTICULATE: 3 MG/M3

b PARTICULATES NOT OTHERWISE REGULATED (PNOR), TWA TOTAL DUST: 15 MG/M3, RESPIRABLE FRACTION: 5 MG/M3

KEY TO NOTES:

(1) (SUSPECT) CARCINOGEN-OSHA, ACGIH, NTP OR IARC

- (2) SARA TITLE III SECTION 313 CHEMICAL
- (3) SARA TITLE III EXTREMELY HAZARDOUS SUBSTANCE
- (4) CERCLA HAZARDOUS SUBSTANCE AND REPORTABLE QUANTITIES
- (5) RCRA HAZARDOUS WASTE

NONE - NONE OF THE ABOVE APPLIES TO THIS COMPONENT

*FINAL PRODUCT IS A SOLUTION. THE HAZARDS OF THE COMPONENTS ARE NOT ANTICIPATED. PARTICULATE EXPOSURE HAZARD MAY BE PRODUCED BY AEROSOLIZATION.

SECTION 3: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

NONVOLATILE, NONFLAMMABLE MIXTURE IN SALT WATER PACKAGED IN QUANTITIES OF 30-300 ML (APPROXIMATELY 1/8 TO 1 CUP).

AVOID CONTACT WITH SKIN AND EYES. EXPOSURE TO SUNLIGHT AFTER CONTACT MAY CAUSE A SUNBURN-LIKE REACTION.

KEEP AWAY FROM SUNLIGHT AFTER DIRECT CONTACT.

AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER.

THE FOLLOWING WARNING IS FOR S-59:

MUTAGENIC IN CELL CULTURE (IN-VITRO) GENETIC TOXICOLOGY TEST SYSTEMS.

EYES:

MAY BE SLIGHTLY IRRITATING AND MAY CAUSE DISCHARGE FROM THE EYE, IF EXPOSURE TO SUNLIGHT OCCURS AFTER EYE CONTACT.

SKIN:

ONE-TIME OR REPEATED EXCESSIVE SKIN CONTACT, FOLLOWED BY EXPOSURE TO SUNLIGHT AFTER CONTACT CAN CAUSE A SUNBURN-LIKE REACTION. MAY CAUSE EYE IRRITATION AND DISCHARGE AFTER SKIN CONTACT AND EXPOSURE TO SUNLIGHT (BASED UPON ACTIVE INGREDIENT, S-59). ONE-TIME CONTACT WITH THE FORMULATION IS EXPECTED TO BE NON-TOXIC. REPEATED SKIN CONTACT MAY CAUSE SKIN SENSITIZATION.

INHALATION:

NO DATA AVAILABLE. IF SYSTEMIC OVEREXPOSURE OCCURS, FOLLOWED BY EXPOSURE TO SUNLIGHT, MAY CAUSE A SUNBURN-LIKE REACTION AND IRRITATION AND DISCHARGE FROM THE EYE.

INGESTION:

FORMULATION IS EXPECTED TO BE PRACTICALLY NON-TOXIC IF ACCIDENTALLY SWALLOWED IN SMALL QUANTITIES. MAY BE HARMFUL IF SWALLOWED IN LARGE QUANTITIES.

SECTION 4: FIRST AID MEASURES

EYES:

FLUSH WITH LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES. KEEP AWAY FROM SUNLIGHT. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS.

SKIN:

REMOVE CONTAMINATED CLOTHING, WASH THE AFFECTED AREA WITH MILD DETERGENT AND WATER. FLUSH AREA WITH WATER FOR AT LEAST 15 MINUTES. KEEP AWAY FROM SUNLIGHT. IF REDNESS OR IRRITATION OCCURS, SEEK MEDICAL ATTENTION.

INHALATION:

REMOVE PERSON TO FRESH AIR. KEEP AWAY FROM SUNLIGHT. IF PERSON IS NOT BREATHING, ADMINISTER ARTIFICIAL RESPIRATION OR CPR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK MEDICAL ATTENTION, IF APPROPRIATE.

INGESTION:

CALL A PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT

INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IF SYMPTOMS APPEAR.

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

USE MEDIUM (E.G., WATER, FOAM, VAPORIZING LIQUID OR MULTIPURPOSE DRY CHEMICAL) SUITABLE FOR SURROUNDING MATERIALS.

FIRE-FIGHTING PROCEDURES:

FIRE FIGHTER SHOULD WEAR FULL-FACE POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA), GLOVES AND FULL SKIN PROTECTION.

UNUSUAL FIRE/EXPLOSION HAZARDS: NONE KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: DATA NOT AVAILABLE

FLASH POINT:

NOT DETERMINED METHOD: NOT APPLICABLE

NOT DETERMINED METHOD: NOT APPLICABLE

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

IF POTENTIAL EXISTS FOR AEROSOLIZATION OF PRODUCT, IMMEDIATELY CONTACT EMERGENCY PERSONNEL AND KEEP UNNECESSARY PERSONNEL AWAY. USE SUITABLE PROTECTIVE EQUIPMENT (SECTION 8). FOLLOW ALL FIRE-FIGHTING PROCEDURES.

ENVIRONMENTAL PRECAUTIONS AND CLEAN-UP METHODS:

FOR SMALL SPILLS, WEAR PROTECTIVE CLOTHING (SECTION 8) AND TAKE PROPER PRECAUTIONS TO MINIMIZE EXPOSURE. SOAK UP LIQUID WITH ABSORBENT MATERIAL AND PLACE IN A SEALED, LIQUID PROOF CONTAINER FOR DISPOSAL. WASH SPILL AREA WITH SOAP AND WATER.

SECTION 7: HANDLING AND STORAGE

HANDLING:

WHEN PRACTICABLE, STORE PLASTIC CONTAINER IN SEALED PLASTIC BAGS. PROTECT FROM LIGHT.

STORAGE: ROOM TEMPERATURE (25 DEG. C/77 DEG. F) OR LOWER

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

REFER TO SECTION 2 FOR COMPONENT EXPOSURE LIMITS. NO OCCUPATIONAL EXPOSURE LIMITS HAVE BEEN ESTABLISHED BY OSHA, ACGIH OR NIOSH FOR THE FORMULATION.

ENGINEERING CONTROLS:

WHEN PRACTICABLE, HANDLE THE FORMULATION IN AN ENCLOSED OR VENTILATED AREA, SUCH AS A VENTILATED ENCLOSURE OR HOOD. MINIMIZE EXPOSURE TO MISTS.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION:

PERFORM EXPOSURE MONITORING FOR THIS PRODUCT AND ITS COMPONENTS TO ENSURE THAT EMPLOYEES ARE NOT EXPOSED TO LEVELS GREATER THAN APPLICABLE REGULATORY LIMITS.

IF EXPOSURE LEVELS EXCEED REGULATORY LIMITS, IMPLEMENT A RESPIRATORY PROTECTION PROGRAM INCLUDING RESPIRATORY PROTECTION THAT IS IN COMPLIANCE WITH OSHA 29 CFR 1910.134 (IN THE US) OR EQUIVALENT REGULATION IN OTHER REGIONS. FIRE FIGHTING REQUIRES THE USE OF A SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE AND POSITIVE PRESSURE MODE.

SKIN:

WEAR DISPOSABLE, WATER RESISTANT, LAB COAT OR EQUIVALENT (E.G., TYVEK TYPE COVERALLS) AND DISCARD APPROPRIATELY.

HANDS:

LATEX OR OTHER IMPERVIOUS GLOVES SHOULD BE WORN DURING PREPARATION AND HANDLING OF SOLUTION. ENSURE EXPOSED AREAS OF THE SKIN ARE COVERED, INCLUDING WRISTS.

EYES:

USE SAFETY GLASSES WITH SIDE SHIELDS DURING PREPARATION AND HANDLING OF SOLUTION. GOGGLES, FACE SHIELD, OR OTHER FULL-FACE PROTECTION IF POTENTIAL EXISTS FOR DIRECT EXPOSURE TO AEROSOLS OR SPLASHES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: CLEAR, COLORLESS, LIQUID

PH: 4.0 - 6.0

BOILING POINT: NOT DETERMINED

VAPOR DENSITY (AIR = 1): NOT DETERMINED

VAPOR PRESSURE: NOT DETERMINED

SOLUBILITY IN WATER: MISCIBLE

EVAPORATION RATE (DIETHYL ETHER = 1): NOT APPLICABLE

SECTION 10: STABILITY AND REACTIVITY

STABLE: STABLE UNDER NORMAL STORAGE AND HANDLING CONDITIONS (SECTION 7).

INCOMPATIBILITY (MATERIALS TO AVOID): UV LIGHT EXPOSURE

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

S-59

LD50 ORAL, RAT, MALE: 981 MG/KG

LD50 ORAL, RAT, FEMALE: 799 MG/KG

LD50 DERMAL, RABBIT: >2000 MG/KG

DERMAL PHOTOIRRITATION: MODERATE PHOTOIRRITANT, OCULAR LESIONS IF EYES
PHOTOTREATED

PRIMARY EYE IRRITATION: MODERATE IRRITANT

S-59 (3MM IN SALINE)

PRIMARY EYE IRRITATION: NON IRRITANT

PRIMARY SKIN IRRITATION: NON IRRITANT

DERMAL SENSITIZATION: NON SENSITIZER

DERMAL PHOTOIRRITATION: SLIGHT PHOTOIRRITANT

DERMAL PHOTSENSITIZATION: SLIGHT PHOTSENSITIZER

S-59 (74MM IN WATER)

PRIMARY EYE IRRITATION: NON IRRITANT

PRIMARY SKIN IRRITATION: MILD IRRITANT 1 HOUR, NON-IRRITANT 24, 48, AND 72 HOURS

DERMAL PHOTOIRRITATION: SLIGHT PHOTOIRRITANT

DERMAL SENSITIZATION: WEAK SENSITIZER

ACUTE EFFECTS:

EYES:

DIRECT CONTACT IS EXPECTED TO BE NON-IRRITATING BASED ON PRIMARY EYE IRRITATION STUDIES. IF EYE CONTACT OCCURS FOLLOWED BY EXPOSURE TO SUNLIGHT, MAY CAUSE IRRITATION AND DISCHARGE FROM THE EYE.

SKIN:

ONE-TIME EXCESSIVE SKIN CONTACT OF THE FORMULATED MIXTURE FOLLOWED BY EXPOSURE TO SUNLIGHT AFTER CONTACT CAN CAUSE A SUNBURN-LIKE REACTION. THE ACTIVE INGREDIENT, S-59, CAN CAUSE EYE IRRITATION AND DISCHARGE AFTER SKIN CONTACT AND EXPOSURE TO SUNLIGHT. THE ACTIVE INGREDIENT, S-59, WAS NOT TOXIC IN RATS FROM A SINGLE DERMAL DOSE OF 2 G/KG. IN THE FORMULATION MIXTURE, ONE-TIME CONTACT WITH THE FORMULATION IS EXPECTED TO BE ACUTELY NON-TOXIC.

INGESTION:

THE FORMULATED MIXTURE IS NOT EXPECTED TO BE ACUTELY TOXIC IF ACCIDENTALLY SWALLOWED IN SMALL QUANTITIES BASED UPON THE LOW CONCENTRATION OF THE ACTIVE INGREDIENT. LARGE QUANTITIES MAY BE ACUTELY HARMFUL IF SWALLOWED BASED UPON THE ORAL LD50 OF THE ACTIVE INGREDIENT, S-59.

INHALATION:

NO DATA AVAILABLE. IF SYSTEMIC OVEREXPOSURE OCCURS BY INHALATION, FOLLOWED BY EXPOSURE TO SUNLIGHT, MAY CAUSE A SUNBURN-LIKE REACTION.

CHRONIC EFFECTS:

ADVERSE EFFECTS:

REPEATED OVEREXPOSURE OR CONTACT MAY CAUSE DERMAL SENSITIZATION. REPEATED OVEREXPOSURE OR CONTACT, FOLLOWED BY EXPOSURE TO SUNLIGHT, MAY CAUSE A SUNBURN-LIKE REACTION ON THE SKIN. THE ACTIVE INGREDIENT, S-59, CAN CAUSE EYE IRRITATION AND DISCHARGE AFTER SKIN CONTACT AND EXPOSURE TO SUNLIGHT.

TARGET ORGANS:

SKIN (FOLLOWING REPEATED EXPOSURE AT A DOSE GREATER THAN 1 G/L (3MM))

CARCINOGENIC EFFECTS:

NOT AVAILABLE FOR FINAL PRODUCT. SIMILAR COMPOUNDS TO S-59 HAVE PRODUCED SKIN TUMORS WHEN REPEATEDLY ADMINISTERED ORALLY TO LABORATORY ANIMALS FOLLOWED BY ULTRAVIOLET LIGHT EXPOSURE AFTER EACH ADMINISTRATION.

GENOTOXICITY:

THE ACTIVE INGREDIENT, S-59 CAUSED MUTATIONS IN SEVERAL IN VITRO (CELL CULTURE) GENETIC TOXICOLOGY TEST SYSTEMS: THE AMES SALMONELLA GENE MUTATION ASSAY, THE MOUSE LYMPHOMA GENE MUTATION ASSAY AND A CHROMOSOMAL ABERRATION STUDY. IT WAS NOT MUTAGENIC IN AN IN VIVO (WHOLE ANIMAL) ASSAY THAT EVALUATED EFFECTS ON DNA OR IN A MOUSE MICRONUCLEUS ASSAY, WHICH EVALUATED CHROMOSOMAL EFFECTS.

REPRODUCTIVE TOXICITY: NOT AVAILABLE.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY DATA: NO DATA AVAILABLE

ENVIRONMENTAL HAZARDS: NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

DISPOSE OF IN ACCORDANCE WITH COUNTRY, REGIONAL, FEDERAL, STATE, AND LOCAL REGULATIONS. CONSIDERATION TO DISPOSE OF LIQUID WASTES AS PHARMACEUTICAL WASTES SHOULD BE GIVEN.

SECTION 14: TRANSPORTATION PRECAUTIONS

DOT DESIGNATION: NOT REGULATED

IATA DESIGNATION: NOT REGULATED

SECTION 15: REGULATORY INFORMATION

US REGULATIONS:

HAZARD COMMUNICATION STANDARD: NOT CONTROLLED UNDER HCS

OSHA PROCESS SAFETY: NOT APPLICABLE

SARA HAZARD CATEGORIES, TITLE III:

ACUTE HAZARD: NO
CHRONIC HAZARD: NO
FIRE HAZARD: NO
REACTIVITY HAZARD: NO
SUDDEN RELEASE HAZARD: NO

TSCA STATUS: EXEMPT: PHARMACEUTICAL MATERIAL - NOT IN INVENTORY

CALIFORNIA PROPOSITION 65: NOT LISTED

REFER TO SECTION 2 FOR ADDITIONAL US REGULATORY STATUS

EUROPEAN UNION RISK AND SAFETY PHRASES:

R40 CAUSES MUTATIONS IN SOMATIC CELLS.
S14 KEEP AWAY FROM SUNLIGHT.
S24 AVOID CONTACT WITH SKIN.
S25 AVOID CONTACT WITH EYES.
S29 AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER

CANADIAN REGULATIONS:

WHMIS: NOT CONTROLLED UNDER WHMIS

SECTION 16: OTHER INFORMATION

ACRONYMS:

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT
ADMINISTERED BY EPA
DOT: U.S. DEPARTMENT OF TRANSPORTATION
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IATA: INTERNATIONAL AIR TRANSPORTATION ASSOCIATION
LD50: LETHAL DOSE 50% OF ANIMALS

NTP: NATIONAL TOXICOLOGY PROGRAM
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, US DEPARTMENT OF LABOR
RCRA: RESOURCE CONSERVATION AND RECOVERY ACT. ADMINISTERED BY EPA
RTK: RIGHT TO KNOW
SARA: SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986.
TSCA: TOXIC SUBSTANCES CONTROL ACT
TWA: TIME-WEIGHTED AVERAGE CONCENTRATION FOR A NORMAL 8-HOUR WORKDAY AND A
40-HOUR WORKWEEK TO WHICH NEARLY ALL WORKERS MAY BE REPEATEDLY EXPOSED,
DAY AFTER DAY, WITHOUT ADVERSE EFFECT.

TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED HEREIN IS ACCURATE.
HOWEVER, NEITHER BAXTER HEALTHCARE CORPORATION NOR ANY OF ITS DIVISIONS OR
SUBSIDIARIES ASSUMES ANY LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS
INFORMATION. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE
RESPONSIBILITY OF THE USER. ALL MATERIALS MAY PRESENT UNKNOWN HAZARDS AND SHOULD
BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT
GUARANTEE THAT THESE ARE THE ONLY HAZARDS WHICH EXIST.

REPLACES INFORMATION DATED: NOT APPLICABLE
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